NUCLEAR PROPERTY INSURANCE ACT OF 1981

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

NINETY-SEVENTH CONGRESS

SECOND SESSION

ON

S. 1606

A BILL TO ESTABLISH A SUPPLEMENTAL INSURANCE FUND ADMINISTERED BY THE SECRETARY OF ENERGY TO PAY THE COSTS OF NECESSARY REMEDIAL ACTION FOLLOWING DAMAGE TO NUCLEAR POWERPLANTS, INCLUDING CERTAIN REMEDIAL ACTION AT THE THREE MILE ISLAND FACILITIES IN PENNSYLVANIA, TO REQUIRE PARTICIPATION IN SUCH FUND BY THE LICENSEES OF NUCLEAR POWERPLANTS AS A CONDITION FOR THE LICENSING AND CONTINUED OPERATION OF SUCH PLANTS, AND FOR OTHER PURPOSES

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NUCLEAR PROPERTY INSURANCE ACT OF 1981

THURSDAY, MAY 20, 1982

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, D.C.

The committee met at 9:35 a.m., in room 4200, Dirksen Senate Office Building, Hon. Robert T. Stafford (chairman) presiding.

Present: Senators Stafford, Bentsen, Burdick, Gorton, Mitchell, Randolph, and Simpson.

Senator GORTON [presiding]. Good morning.

This is a hearing of the Environment and Public Works Committee in which we will receive testimony on S. 1606, a bill introduced by Senator Heinz last September to address certain financial issues arising from the accident at Three Mile Island Unit 2.

I know that Senator Heinz, who is with us this morning must leave soon. With that in mind, we will defer other business and ask Senator Heinz to make his presentation.

STATEMENT OF HON. JOHN HEINZ, U.S. SENATOR FROM THE STATE OF PENNSYLVANIA

Senator HEINZ. Mr. Chairman, thank you very much.

I am privileged to appear here with Senator Specter and Senator Bradley before this committee, and its distinguished members.

But first, let me thank all the members of this committee for holding this full committee hearing so promptly, especially in view of the already very heavy and overburdened schedule of the committee.

I know that Senators Simpson and Hart are all too familiar with Three Mile Island, for we visited it together during the first hours of the emergency, and the citizens of our community are grateful to both of those Senators for the sincere concern that they have taken in this matter.

Mr. Chairman, the issue at hand today, the funding of the cleanup at Three Mile Island as in part provided for by my bill, S. 1606, is, I suggest, one we must address with all speed. And I do thank the committee for recognizing this urgency.

The need for immediacy is apparent from the constant threat that the contaminated island presents.

Later in the afternoon, the committee will hear testimony from the Nuclear Regulatory Commission, and others, on the safety of the area, but allow me to simply read from a recent letter sent from the NRC Advisory Panel for the decontamination of the Three Mile Island unit 2, and I quote:

> The crippled reactor at Three Mile Island would constitute a threat to the health and safety of the public until it is decontaminated. The rate of progress on the cleanup at this time is inadequate to protect the public health and safety.
>
> In the absence of an expeditious cleanup, unit 2 is becoming a de facto long-term storage facility for high level radioactive wastes which also constitutes a threat to the public health and safety.

Mr. Chairman, that is from the Nuclear Regulatory Commission Advisory Panel on this subject.

Senator Gorton and Senator Randolph and your colleagues, the fact is that the cleanup has simply not progressed at a rate which will remove this vital health threat. Until a stable source of funding is determined, there will not only be a growing threat to the environment and public health, but thousands of Pennsylvanians will be subject to uncertainties and fears that it is within our power to resolve. Nor will the cost of financing utilities subside. S. 1606 is also the lowest cost solution.

Presently, Mr. Chairman, utilities—through their consumers—are already paying $170 million a year in additional risk premiums on their financing due to the lack of confidence in utility stocks, bonds, and debentures, created by the accident and the slow cleanup. The most this bill will generate in any one year is approximately $30 million. That means that the enactment of S. 1606 is part of an overall package could save the customers of those nuclear utilities as much as $140 million each year.

Let me repeat, the passage of this bill would result in an actual decrease in cost to consumers due to the expedited cleanup and the confidence in the success of that cleanup that will follow.

General Public Utilities, the responsible utility at TMI, has made considerable progress on the cleanup. All but 4 percent of the 600,000 gallons of contaminated water has been removed from the reactor and auxiliary buildings, treated, and is stored onsite. But the most important elements of the cleanup—the decontamination of the reactor building and the removal of the core—are very expensive and highly technical operations which will require newly designed equipment and many, many man-hours.

The cost allocation plan, of which S. 1606 is an essential element, is the best method of addressing the funding requirements to complete this operation, as my colleague, Senator Bradley, will explain.

The cost allocation plan itself is comprised of four parts: First, contribution from two States, Pennsylvania and New Jersey, second, from the ratepayers served by GPU; third, research and development funds from the Department of Energy, and last from those utilities that produce electricity through the use of nuclear powerplants.

Each of these elements must take effect to insure adequate progress in the cleanup. If we fail in the Congress to come forward with a bill like S. 1606 there will be no adequate plan to insure the cleanup and then we will have an even more expensive and more terrible problem on our hands.

The portion of the cost-sharing plan that the committee addresses today simply deals with the contribution of the utilities which have nuclear powerplants operating at this time. As ordered to be reported from the Committee on Energy and Natural Resources, the bill, S. 1606, has two basic provisions:

First, the bill provides for a small surcharge for each kilowatt of power that the utility holds in nuclear capacity, provided that the utility has at least one operational nuclear powerplant. For example, if a utility had two plants under construction, but neither were in operation, the surcharge would not be levied for the capacity represented by the plants. When one plant became operational, the surcharge would be levied against the capacity represented by both plants. Nor would the surcharge apply to any plant whose operational license has been surrendered, nor to a plant whose owners have certified it will remain in total shutdown during the period in which the fee shall be levied.

Second, the bill provides no direction to the State regulatory bodies or the Federal Energy Regulatory Commission regarding the consideration of this fee in the ratemaking procedure. I firmly believe that this assessment should occur within the regulatory procedures provided by existing law. Only each State regulatory body can best adjudicate the needs of its citizens and the capabilities of its utilities.

Mr. Chairman, in conclusion, this bill provides an absolutely necessary link in the chain that will resolve the serious health and safety problems that surround Three Mile Island.

The status of the remaining four links will be addressed by the other witnesses you have called here today. Each of those links is very near its target.

I respectfully request my colleagues to consider this bill very carefully. We have a problem on our hands, and when you consider the other options, it should be clear this bill is our best answer.

I would add one last observation, Mr. Chairman. There is a threat to public health, safety, and the environment at Three Mile Island. There is no doubt that there is going to have to be some additional mechanism for cleaning up.

If the committee or the Congress doesn't like S. 1606 or some similar bill, fine; that is the judgment of the Congress or of this committee, or of the other body. But let me say that those people who do not like S. 1606 or this approach, are morally bound to put forward an alternative that will work. It is not enough simply to say no to an approach. I think anybody who rejects this approach must have as good or better an alternative. And that is a responsibility, Mr. Chairman, that I don't believe this committee or the Congress can duck.

Mr. Chairman, Governor Thornburgh of Pennsylvania could not attend this hearing today. He has asked that I place his formal statement in the record.

Senator GORTON. The statement on behalf of Governor Thornburgh will be entered into the record, together with statements from the Tennessee Valley Authority and the National Rural Electric Cooperative Association. (See pp. 59, 76, and 80.)

I understand you are pressed for time, Senator Heinz, and if you have completed your statement, we will be happy to excuse you.

Senator HEINZ. I am willing to stay for another 5 or 10 minutes, but why don't we proceed with Senator Bradley.

Senator GORTON. The chair will note that our colleagues, Senator Randolph and Senator Mitchell, are here. Because the Senators are here, I have skipped my own personal opening statement on this. Is it appropriate to wait until they have completed theirs as well.

We will proceed to Senator Bradley.

STATEMENT OF HON. BILL BRADLEY, U.S. SENATOR FROM THE STATE OF NEW JERSEY

Senator **Bradley**. Thank you very much, Mr. Chairman, for holding this hearing and for allowing us to testify before the committee.

As you know, members of this committee have displayed strong and early leadership in the effort to determine the cause of the accident at Three Mile Island and to reduce the chance of future accidents.

Senators Hart and Simpson were really the first to identify the problem we are discussing here today, which is funding the cleanup of the Three Mile Island accident site.

Mr. Chairman, the principal issue here today is a health and safety issue, as Senatoe Heinz has said. Most responsible participants in the pronuclear/antinuclear debate agree that the radioactive buildings located on the Three Mile Island in the Susquehanna River near Harrisburg, Pa., should be decontaminated. On this there is little controversy. The secondary issue concerns utility financing. Investors are asking for a risk premium on utility securities, thereby raising utility borrowing costs and consumer rates across the Nation.

To reduce the threat to health and safety, and to a lesser extent, to reduce utility borrowing costs, the island must be decontaminated.

The question becomes, how to accomplish the cleanup. In an ideal world, the full $1 billion onsite cleanup cost would have been covered by insurance. Unfortunately; no one knew how much it would cost to clean up the site of a nuclear accident. GPU, like most nuclear utilities, held only $300 million in this type of insurance.

The serious options for raising the necessary cleanup funds now being considered are three: First, the parent company, General Public Utilities, its stockholders and its ratepayers, could be made to bear the full cost of the cleanup.

Second, the Federal Government could provide loans or loan guarantees.

Third, the cleanup cost could be shared among GPU, the Federal Government, the States of Pennsylvania and New Jersey, and the nuclear utility industry.

Mr. Chairman, the first approach, to require GPU to bear the full uninsured cost, unfortunately will not accomplish the goal of cleanup. This approach will likely push GPU into bankruptcy and the cleanup will be further postponed during the lengthy legal wranglings. Further, such a bankruptcy would likely have severe repercussions for all investor-owned utilities around the country as they try to obtain financing in an already tight bond market.

The second approach, to rely on Federal loans or guarantees, does not appear to be a real option in today's budgetary climate or at any time in the near future. Even if this were a real option, it is not clear that the taxpayer should be asked to bear this burden.

The third approach, to share the cost of cleanup among affected parties, appears to offer some sense of fairness and some hope of getting the job done.

Our legislation addresses only one portion of this third option, the portion to be provided by the nuclear utility industry.

The conceptual basis for our bill is that nuclear utilities should have been fully insured against accidents. They should have been paying somewhat higher insurance premiums. The almost negligible fee imposed by this legislation represents insurance payments that should have been paid in the past.

My main point here today is that there are no great options. But we must get that island decontaminated. This cost-sharing approach is the least bad of the options now available.

Some have asked what happens if one or more of the pieces of this cost-sharing plan fall short. We know already that the Federal Government piece is somewhat short of Governor Thornburgh's original goal. Similarly, the legislation before you today would provide less than we had hoped from the nuclear industry. However, it is not crucial that the Governor's plan be met to the penny—or even to the nearest million. There is nothing sacred about the original shares. However, if the cost-sharing proposal falls apart because one of the parties does not contribute a significant share, then the whole cleanup effort loses steam and stops dead in the water.

The accident site will remain a contaminated island in the river near Harrisburg. This cannot be allowed to occur. The problem may then worsen and eventually be dumped onto the Federal Government.

One final point, Mr. Chairman, how large is the premium imposed on nuclear utility ratepayers by this legislation if fully passed through? Would you think it is a dollar a month? More? Less? For many utilities—those without nuclear plants—the rate increase is, of course, zero. However, the most the average residential ratepayer in any State will pay is 62 cents per year. That is right, per year. This legislation will cost homeowners somewhere between zero and 62 cents per year.

So, Mr. Chairman, this legislation is an important and necessary part of the cost-sharing plan to clean up Three Mile Island.

The alternatives to the cost-sharing plan are all worse. I appreciate your interest and attention and respectfully solicit your support.

Senator GORTON. Senator Specter.

STATEMENT OF HON. ARLEN SPECTER, U.S. SENATOR FROM THE STATE OF PENNSYLVANIA

Senator SPECTER. Thank you, Mr. Chairman.

I join Senator Heinz and Senator Bradley in expressing appreciation to the committee for conducting these hearings and I commend Senators Heinz and Bradley for their initiative and leadership today.

On the issue of danger, I would like to inject a personal note, turning back the clock to March 28, 1979, at a time when the incident occurred in Three Mile Island and underscore what Senator Heinz and Senator Bradley have testified about the danger.

It is somewhat of an abstract proposition as we sit here in this Senate hearing room today and hear the generalizations and the potentiality of danger, but there is a real life problem which has monumental explosive potentiality to erupt at any moment and when this event occurred back on March 28–29, 1979, there was enormous fear and enormous concern in Pennsylvania with the issue of evacuation of tens of thousands of people. A friend called me from Lancaster at the time, which is not too far from Three Mile Island, saying, "What should I do," looking for advice. I was an attorney at the time, I gave advice on a great many subjects, but I was not really competent to advise on this subject.

In the city of Philadelphia, some 100 miles from the event, there was major concern there could be an explosion of some sort and there could be fallout which might well exceed 100 miles in diameter. The city of Washington is not too far from Three Mile Island and millions and millions of people live within a danger range of this unit.

And notwithstanding that enormous danger, and that enormous world focus in March and in early April, when the Governor of Pennsylvania was on International News Daily, and the President of the United States came to the site and there was enormous attention, somehow it has dwindled and has faded from view until a committee such as this focuses attention on it, amidst many, many other problems we have to concern ourselves with in the U.S. Congress.

I would call to the attention of this committee that the significant delay is a major problem because as time passes, new problems arise on the horizon.

For example, the judicial decision of the Court of Appeals for the District of Columbia has said now that psychological stress must be considered on the issue of reopening as it impacts on the safety feature and what is going to happen to Three Mile Island unit No. 1 in the future. And without getting involved in the merits, pro or con on that decision, that is for another day, it is at least worth noting that as delays occur, new problems arise.

There was a vote in three counties in Pennsylvania and by a margin of approximately 2 to 1, the people of those three most closely involved counties were opposed to the startup again of unit No. 1. And that is a signal caused at least in part by the tremendous delay which has resulted for more than 3 years and 2 months since this incident occurred.

There is a real question of leadership and a real question of whether we have the ability to govern, a subject which has been on so many lips in the past several days concerning the budget issue. The distinguished chairman of this committee has spoken on this subject as it relates to the budget.

I would suggest to you that a similar issue is involved on what is going to happen to Three Mile Island. It may well be that my travels take me to Middleton, Lebanon, and Lancaster, and Cumberland County, Pa., more frequently than the members of this panel.

You have your own concerns in the States of Washington, West Virginia, and Maine. But as Senator Heinz and I travel in those areas, there is overwhelming concern and we are readily greeted with the questions: What are you doing in Washington? Why has it taken so many months and years to come to a focus on this problem? And I would say to you that the concerns of these Americans, albeit Pennsylvanians and a part of Pennsylvania really deserve prompt attention as this complex picture has to be solved.

But on a broader focus, it is more than a problem for Pennsylvania, it is a problem for this Nation because this is a problem which could arise anywhere.

As Senator Heinz has demonstrated with simple arithmetic, it is in the interest of nuclear users everywhere to pay this small amount of money because it will be a saving to them because the future of the nuclear industry is jeopardized. The cost of the nuclear borrowing is impacted greatly by what has happened in Three Mile Island.

And beyond the picture in the United States, it is a world problem. We all know very well the necessity for developing alternative sources of energy. It is not as much on our minds today as it was in 1973 in December when we all faced long gaslines, but we do know when we stop the focus that the nuclear energy is necessary as a part of the overall development of energy if it is safe, and that is a big caveat, and Three Mile Island is a major towering sore on the horizon of whether nuclear energy will be developed in this country and in this world as an alternative source of energy to the stranglehold of OPEC oil. So that the issue now before this committee and ultimately to be before the Senate and Congress are matters of overwhelming importance not just to the residents of this area, but this Nation and this world, as we try to come to grips with the problem of alternative sources of oil.

So I am pleased to join Senator Heinz and would echo his call that if not this solution then let us have some solution. I have introduced legislation, other Congressmen have introduced legislation, bills, and nobody is suggesting that we have the final answer, but we do say there has to be an answer and an answer as promptly as it can be formulated.

Thank you.

Senator GORTON. Thank you all very much.

Senator Heinz, we are told back here that your speech has been canceled.

Senator HEINZ. That is correct. Due to the fine work of the budget process, and the rollcall votes expected shortly, we have sent notice to people in Pittsburgh saying I cannot attend.

Senator GORTON. Thank you all very much.

This question will be primarily for the two Senators from Pennsylvania. I noted in yesterday's paper that in Tuesday's primary elections in Pennsylvania, the people in the area served by TMI voted quite overwhelmingly against allowing the reopening of the undamaged unit. That vote, if it becomes public policy, obviously will further undercut the ability of GPU to operate efficiently or economically.

What is your reaction to that?

You are concerned about its bankruptcy. You are asking people over the rest of the United States to help work GPU out of its bankruptcy and yet the people immediately affected have voted to worsen the condition of GPU.

Senator **Heinz**. Mr. Chairman, I am not sure that you can reach either of the two conclusions you put forth. To my knowledge there has been no approval coming forth from the NRC or anybody else with authority to restart No. 1. General Public Utilities is in the process of preparing unit No. 1 for restart, and the NRC is the body that will have to determine when if ever, TMI No. 1 will be restarted.

The second issue that you mentioned is whether this is some kind of a bailout of a utility and its stockholders. I think the GPU representatives can be questioned as to the extent to which their stockholders have made sacrifices, and will continue to make sacrifices.

It is my view that what we are doing here is not aimed at helping GPU per se, although GPU is the vehicle through which we must administer our assistance. Our goal is to recognize that according to our best judgment, the best information we have, it is simply beyond the capacity of this utility to deal with this very serious threat to the public health, the public safety, and the environment.

Senator **Gorton**. About how many of the public utility commissions of Pennsylvania and New Jersey raised the ratepayers' cost for power to provide their share of the cleanup?

Senator **Heinz**. Mr. Chairman, I do not happen to have in front of me the exact cost. I am sure Ms. Shanaman, who is here, can answer. But the answer is there has been a substantial increase.

Senator **Bradley**. Pennsylvania, I think, will be responsible for $36 million, New Jersey will be responsible for roughly $16 million.

Senator **Gorton**. What would that be in percentage?

I am speaking of the increase of rate for the average utility ratepayer simply for the cleanup.

Senator **Heinz**. Could we defer to the State public utility commission to answer that question? I'd rather not try to pretend to be an expert when I have a better one behind me.

Senator **Gorton**. We can defer.

Senator **Bradley**. May I go back to the first question you asked, Senator Heinz, about the election?

Not being from Pennsylvania, but being an elected official who does have a significant portion of his State affected by this, I think a possible explanation of why a constituency votes not to reopen TMI is that they have great fears for public health and safety, and they see government inaction since the time of this accident that only enhanced their fears that nobody knows what to do and nobody is going to do anything so they have to take it in their own hands, and they stopped any possibility that this kind of thing will happen again, even though it flies in the face of their own economic self-interest.

And I think the reaction is a result of the fact that there has been no move to clean up to any significant extent since the Three Mile Island accident. And that is what our bill tries to address. The longer you perpetuate this period of indecision, fear grows.

Let's move in, share the cost and clean it up.

Senator **Specter**. If I may respond to your question. I think it is like the movie "Network." The point where the people all put their heads outside of the apartment houses and their homes and said "We are fed up, and we are not going to put up with this any more." That is what I was eluding to in my opening statement about the vote. There is just enormous disgust in that area in Middletown, Cumberland, and Lebanon Counties, the people affected, what has gone on, where is the leadership, why has it taken 3 years, what is going to be done.

And they have had an opportunity to go to the poles and express themselves and they have voted no. And it may well be that voters everywhere are going to be voting no regardless of what the subject is when government does not respond and issues are pending and when I have been asked the question why has no action been taken, I cannot give them a satisfactory answer.

Senator **Gorton**. That does lead to my next question because voters in my State have been voting no in relatively similar connections. The people who live in public utility districts that are members of the Washington Public Power Supply system are now faced with a bill of about $2½ billion for the closure of at least two nuclear power sites which are under construction. Public utility districts are forced to double, triple, and in a few cases quadruple electric power rates. There has not been an overwhelming move on the part of those people to ask utility ratespayers through the rest of the country to help bail them out under costs which it seems to me are infinitely greater than those which your ratepayers would be asked to pay if they had to pay for this entire cleanup.

I must say that each of you, I cannot see the remotest justification to ask ratepayers in my State to pay for this cleanup which apparently the ratepayers in the States of Pennsylvania and New Jersey are unwilling to pay for faced with a disaster from a fiscal standpoint which is infinitely greater not only in total dollars but in dollars per person from the standpoint of view of the people who made the decisions which led to this particular situation.

Senator **Heinz**. Mr. Chairman, let me try and answer that question directly. I think there are two answers. First of all, as I understand the Washington Public Power System situation, it was discovered that it would be uneconomical to build and complete at least two of the five powerplants in question. And therefore there was an economic judgment made by the management which unfortunately appears to be heading toward a very high cost increase for the people served by the Washington Public Power Systems.

Washington Public Power Systems will still have to go to the market to finance the building of two of the five plants.

I think you should realize if we pass this legislation, the cost that the customers of WPPS will have to bear will be reduced because their financing cost will be reduced.

Senator **Gorton**. That is not the view of WPPS.

Senator **Heinz**. That may be, Mr. Chairman, I am giving my personal judgment.

Second, there is not, as I understand it, any safety issue, no threat to the environment at WPPS. Here we have in TMI a nuclear powerplant that is radioactive. To my knowledge you have not loaded any fuel rods in the WPPS system. The reality at TMI, unhappy as it may be is, unless Three Mile Island is completely cleaned up, there will be ultimately deterioration of the containment, there will be the spread of nuclear radioactivity and nobody knows exactly where that is going to stop.

Senator **Gorton**. What is the total bill this would impose, $1 billion?

Senator **Heinz**. Over 6 years the total cost of cleanup is estimated at $1 billion. As Senator Bradley has said, this bill would provide for approximately $172 million over that 6 year period, levying an average of 15 cents per affected utility customer, and for most utility customers in the country, the amount will remain zero.

Senator **Gorton**. The environment and safety and health dangers which you have outlined have not been sufficient to affect the people immediately effected to make that assessment.

Senator **Bradley**. That is incorrect. The Pennsylvania Public Utilities Commission approved $37 million rate increase contingent upon TMI once restarting. The New Jersey request for $12.5 million is pending presently before the utility commission. So the ratepayers have been billed here for cleanup in addition to paying $700 million for replacement power of which roughly $300 million has been rate based.

So you have already a rate base for the utility customers in the area. Believe me, I am one of them, a dramatic increase in their rates for replacement power and in the perspective future for cleanup. So, this is not something that ratepayers are running away from their responsibility.

If you look at the numbers, the ratepayers in this arrangement are going to end up paying $245 million of the total cleanup. The nuclear industry $190, the Federal Government $190 originally.

Senator **Gorton**. Senator Randolph.

Senator **Randolph**. Thank you very much, Chairman Gorton.

Senator Bradley, there are no happy options here, there are no alternatives that can be pointed to as the one that seems easiest or less costly.

I do want to recall, only for the record, that this committee had jurisdiction thrust upon it in the Reorganization Act of 1977. I want to express for the record also the very careful attention and I think even the devotion of Senators like Mr. Hart of Colorado, and Mr. Simpson of Wyoming, in fact all the members of the committee.

We have already expended and I am not saying those funds should not have been expended, over $40 million in Federal funds and the proposal is $123 million of Federal funds for just the cleanup in connection with the incident at Three Mile Island.

I say again that the time is to act. What we do, I can't say what that will be. But there is a time when we must act. I remember, if I may drop back to 1933, when over and over again the President of our Republic at that time, Franklin Delano Roosevelt, said that we must act now. Those. words were said over and over again and he said, if we do not act now perhaps just a little later we may not even have the opportunity to make the mistakes that will happen if we acted immediately.

So here there will be some mistakes made, I understand that. But the mistakes will be multiplied and multiplied and multiplied if we do not act.

And I thank the three Senators for coming here today.

Senator **Stafford** [presiding]. Thank you very much, Senator.

Senator **Mitchell.** I have a statement which I would like to make.

Senator **Stafford.** If the Senator would defer, I think it would be well if we asked questions of our distinguished colleagues who are at the witness table and then when they have finished, we will go back to opening statements for all who wish to make them on the committee, if that is agreeable.

Senator **Mitchell.** I have a couple of questions in the course of my statement, maybe I will take those portions of the statement.

Let me point out that this legislation would create what I believe to be a dangerous precedent of assigning responsibility to nuclear accidents where none of the responsibility lies and that is upon ratepayers all across the Nation who have derived no benefit from the operation of this facility, but would be asked to pay for it, for example, this would ask the people of Maine to pay in excess of $1 million to help defray the cost of this cleanup. And yet in 1979 when the Nuclear Regulatory Commission ordered the Main Yankee plant in Wiscasset, Maine to shut down for safety, the cost of $20 million was borne solely by the people of Maine. That is not the only previous incident.

In March 1975 a serious fire broke out at the Browns Ferry-three plant facility in north Alabama, the TVA had to pay over $13 million in repair and modification cost and $230 million in replacement power costs. Those costs were borne by TVA and the customers alone. And Senator Gorton has already referred to the situation in Washington.

The accident at Three Mile Island was not caused by an act of God, not the result of natural disaster, it was caused by errors of management and equipment operation. It is among a host of events and difficulties which one can expect from the operation of nuclear powerplants. It is among the known risks of nuclear power.

You ask us for a solution. I ask you, what is wrong with the people of your area doing what the people of my area have done, the people of the Northeast have done, the people of the Southeast have done, the people of the Northwest have done? They paid their own bill. What is wrong with that?

Senator **Heinz.** I assume that is not a rhetorical question?

Senator **Mitchell.** That is a question I would like to hear the answer to.

Senator **Heinz.** Let me ask you if I may, Senator Mitchell, a question about your $20 million at Main Yankee. Was that the $20 million paid for by insurance?

Senator **Mitchell.** I don't know. Is it relevant?

Senator **Heinz.** It is relevant.

Senator **Mitchell.** Somebody takes out insurance and somebody doesn't, it makes a difference.

Senator **Heinz.** It does for this reason. That at the time of the Three Mile Island accident there was an accident insurance in effect totaling roughly $300 million. Today that accident insurance has been raised to $800 million and your utility, Main Yankee, is covered by that insurance. It now has $800 million dollars in coverage and people are paying a little bit more for that coverage.

I would guess, although I don't have the facts, that the $20 million that you say Main Yankee had to spend to repair its problems came from that fund which is financed by nuclear utility ratepayers all over the country. So for you to say that the cost of nuclear power and any accidents associated with it is borne when it happens in your State by your State, is technically wrong. The basic idea of insurance is to spread the cost of accidents, whether they are acts of God or any other kind of act, among all the parties in the same class.

Senator **Mitchell**. And has not GPU benefitted from the insurance it has and if what you said is true have not the people of Maine contributed to that insurance?

Senator **Heinz**. Everybody has contributed to that but what the ratepayers of GPU right now are contributing to your $800 million insurance coverage. As I understand your statement, you don't look with much favor on our effort to try and, in effect, get the kind of insurance coverage which our people are now paying for for you for Three Mile Island 2, which needs it.

They have exhausted their insurance money. If the insurance coverage that is in effect on Main Yankee or Vermont Yankee or any of the other utilities now in effect had been in effect 3 years ago we wouldn't be here before you today.

Senator **Mitchell**. You and Senator Bradley talked about the rates. I would point out that the rates in Maine are higher than the rates in the area served by GPU and will continue to be higher even after the contribution you talked about goes into effect. Why should the people of Maine pay even more under those circumstances?

Senator **Bradley**. Senator, I would make a couple of comments.

First, until Three Mile Island occurred, every nuclear utility, including yours, thought they were more than covered with $300 million in insurance, had no need for further insurance. Because of Three Mile Island we have for the first time begun to tabulate what the actual costs to clean up the nuclear powerplant that didn't have a certain malfunction, like putting a new spark plug in your car for $13 million but it was in bad shape, it cost $1 billion to clean it up.

Because of that experience your utilities are going to be insured for a higher rate in case that happens to them.

I put myself in your position. If Three Mile Island was in Maine or in Washington and you were coming to me in New Jersey and saying, is it worth 12 cents per customer, not only for the future energy security but on just general grounds of equity, I would say yes.

Senator **Mitchell**. But if you establish this precedent, everybody in this country knows 12 cents per customer is the downpayment because it means inevitably an independent piece of legislation for every incident that occurs around the country, just as you suggested that nobody could have foreseen this initially, I say that neither you or anyone can foresee what that ultimate bill will do.

Senator **Bradley**. The $1 million that the people of Maine are going to pay is, you call it downpayment, on an increase $300 million in insurance that they will have, which if they had not made the downpayment, if Three Mile Island had not occurred they would have been exposed for the full cleanup cost of an eventual failure in Maine. If you draw a distinction, and in your initial remark you appear to draw a distinction between a malfunctioning utility that was—there was a problem because of an act of God versus something that was manmade——

Senator **Mitchell**. Private business has something gone wrong, that is what happened.

Senator **Bradley**. The fact of the matter is, there is a reactor in a nuclear facility that does indeed present public health and safety hazard. You argue that you shouldn't go in and try and go and help clean it up now. What happens if that reactor core breaks and contamination moves into the Susquehanna River, whose responsibility is it then?

Senator **Mitchell**. I have that covered in my statement.

The question is who should pay the cost?

Senator **Bradley**. And you would like to have the Federal Government.

Senator **Mitchell**. I think the ratepayers should pay just like the ratepayers everyplace.

Senator **Stafford**. Would the Senator allow me a question here along this line?

Senator **Heinz**. Mr. Chairman, before we get off——

Senator **Stafford**. This is going back to this question.

Senator **Heinz**. This is a small minor correction I would like to make. The first, Senator Bradley really under stated the case because it is not $300 million more in insurance that your utility customers are getting for the $1 million downpayment, it is actually $500 million, the difference between $800 million and $300 million. You say that your people in Maine are paying more?

Senator **Mitchell**. The Northeast.

Senator **Heinz**. I don't know about the Northeast, but I know that Central Maine Power pays 6.67 versus Met. Ed at 8.6, Jersey Central at 9.6, and Pennsylvania Electric 7.6.

In each case you can see that the rates are a good deal higher than you have in Central Maine. I think Central Maine must be doing a good job in addition to getting the $800 million worth of insurance that our experience made possible for you.

Senator **Mitchell**. Should we thank you.

Senator **Heinz**. You know, perhaps if you had an accident you would.

Senator **Mitchell**. I am not being critical of you. I think both you and Senator Bradley and Senator Specter ought to be commended on coming here and very effectively and vigorously representing the people of your area. I hope you realize some of the rest of us are trying to do the same thing. I have no doubt if the situation were reversed Senator Gorton would be down at that table.

Senator **Heinz**. I thank you for that comment. I am a little disappointed there are not more members of the committee here. I am glad we got the ones we got.

I must say, I hope every member of the committee present or not, understands that this isn't some kind of game we are playing. This isn't politics we are playing, this isn't whether Maine should pay a few dollars to help Pennsylvania because it is an election year or not. This is a health and safety issue that if you had it in your State you would be concerned about, and I know you understand that and appreciate it.

Senator MITCHELL. Please believe me, I did not mean to suggest anything relating to election year, the thought never occurred to me. You would be here if this was 1984 or 1985 or 1989.

I agree it is a serious matter and although I am from Maine I am in the U.S. Senate and I am concerned about the health and safety of people of Pennsylvania as well. Everybody wants a solution. The question is we disagree by the means in which to achieve that solution.

Senator STAFFORD. Thank you Senator Mitchell.

Senator Heinz, in your statement about the cost of electrical energy in Pennsylvania that you just cited, is that not the cost of replacement power while the Three Mile Island units are down?

Senator HEINZ. Yes, there is a tremendous cost.

Senator STAFFORD. That is a good deal higher than would be the case if actually the units were on line and operating.

Senator HEINZ. No, Mr. Chairman. As I understand it, that is not correct. GPU has a rate increase prospectus at this point before the PUC that would, if it were put into effect, would maintain the present rate to place funds into the cleanup effort.

Senator BRADLEY. Could I respond to that from the point of view of the New Jersey utility that is affected?

Yes, the replacement cost increased cost for New Jersey. $700 million in replacement cost or $730 million, $400 million which was not rate base, $300 million was rate base. That would not have occurred had Three Mile Island stayed on line and you hadn't had to buy the expensive replacement cost.

Senator STAFFORD. That fits in with my understanding. I know in Vermont we are part of the Northeast with Senator Mitchell and I share many of his sentiments. Whenever our nuclear powerplant in Vermont goes down, for whatever reason, the replacement cost that Vermont is forced to buy goes up substantially and Vermont ratepayers have to pay for it until the nuclear powerplant goes back on.

Did I understand from testimony that the $300 million insurance level was purely something that was handled by the units in Pennsylvania and New Jersey or was that $300 million level paid for by premiums from all of the nuclear utilities in the country.

Senator HEINZ. Mr. Chairman, $300 million is the level of insurance coverage each nuclear powerplant in this country at that time enjoyed financed by insurance pool payments from all nuclear utilities.

Senator STAFFORD. I didn't want it to appear, and I got the misimpression that the ratepayers in New Jersey and Pennsylvania were paying for that insurance and that those in Vermont and Maine were not.

Senator HEINZ. Quite the contrary. Mr. Chairman, I was trying to point out to Senator Mitchell, that should there be an accident, at Main Yankee an accident, people in Pennsylvania right now, GPU customers right now are paying insurance premiums that would go into the funds that would help clean up any accident that Main Yankee or for that matter Vermont Yankee had.

Senator **Stafford**. Vermont ratepayers and those in Maine are paying for that insurance, they are paying their fair share.

Senator **Heinz**. That is correct, that is the nature of insurance. But had the Three Mile Island accident not occurred, that level would probably still be only $300 million.

Senator **Stafford**. So those in Pennsylvania and New Jersey are not paying for the share for that insurance that Vermonters pay or Connecticut people pay.

Senator **Heinz**. Insurance coverage is a fixed amount for each reactor. As I understand it, it is approximately an $800 million per accident insurance limitation. So, it is rather hard to say who is paying for what. It is all paid out from one pool to which everybody contributes.

Senator **Mitchell**. What is the basis of contribution to the pool?

Senator **Heinz**. I can't give you an accurate answer to that question. There are witnesses who will follow who can.

Senator **Randolph**. Mr. Chairman, there are about 72 plants in the United States, is that correct?

Senator **Stafford**. Operating, yes.

Senator **Randolph**. I want to say for the record we do not have any in West Virginia.

Senator **Stafford**. You have more coal than we do in Vermont.

Senator **Heinz**. I am glad to hear that. It is a good thing the Susquehanna doesn't flow through West Virginia.

Senator **Randolph**. I am just indicating that if you use coal you won't have this problem.

Senator **Heinz**. You and Senator Mitchell may want to have a discussion on that subject one of these days not relating to this subject.

Senator **Stafford**. I see Senator Simpson has come in, the chairman of the Nuclear Regulation Subcommittee. Senator, we have deferred opening statements until our two colleages are finished answering questions, if it is agreeable to you. I would suggest if you have questions you ask them now, if not we will allow our two colleagues to depart, if they wish, for other engagements or join us up here and we will go to opening statements.

Senator **Simpson**. Mr. Chairman, I want to say one thing. Thank heaven I came. Were you picking on these people when I walked in?

Senator **Mitchell**. Giving them a chance to fight for their people.

Senator **Simpson**. I appreciate what you have done, Mr. Chairman, to have a hearing on this. I appreciate what Senators Bradley and Heinz are doing. It is a critical issue and I think you are going to miss something in the process of it if you are not thinking and directing our attention to the health and safety of the general public.

That is the only mission of the NRC. And we can get tangled around in this business all you want to by who is paying for what. Let me tell you the States are going to have to participate, the utilities are going to have to participate and there is something in here bigger than all the stuff about money and that is what are we going to do with the ruptured core at Three Mile Island, and wait until we start hacking that baby up with blowtorches and hauling it out of there, we have enough hoorah to last us all the rest of the session.

Senator STAFFORD. We have enough right now.

Senator SIMPSON. I am going to keep it on the issue of public health and safety and it has to be resolved; it isn't going to go away.

Senator STAFFORD. If there are no further questions, we thank our two colleagues and understand their excellent effort and invite you to stay if you wish or understanding that we have a vote at 11 o'clock on the floor you may wish to go over there.

Senator HEINZ. Thank you, Mr. Chairman.

Senator STAFFORD. We will put the panels we have on notice that we will conduct these hearings as long as necessary today but we will be periodically interrupted by rollcall votes on the floor.

For myself, I am not going to put in an opening statement at this time. Senator Randolph, I recognize you for an opening statement.

OPENING STATEMENT OF HON. JENNINGS RANDOLPH, U.S. SENATOR FROM THE STATE OF WEST VIRGINIA

Senator RANDOLPH. Ordinarily I would place my statement in the record, but it is very brief, if I may just take this 4 or 5 minutes. I think we look back and it is just over 3 years ago that this country was faced with a new experience in its history of nuclear power production.

The serious, almost tragic, accident at Three Mile Island raised questions that we had not seen before concerning many aspects of nuclear power. Since that time there has been extensive debate on questions as to the safety and reliability of nuclear powerplants, and that has been mentioned by the able Senator from Wyoming, and the economics of their continued construction and use and indeed whether we should rely on nuclear power for an increasing percentage of our national electric needs.

The legislation that we have been thinking about discussing today attempts to cope only with recovery from the accident, but the decisions of the Congress in this overall matter will have a substantial and a long-lasting impact on the future of nuclear power in our country.

I commend you, Mr. Chairman, for scheduling the hearing and we, I think, have to expedite our consideration of the Electric Utility Nuclear Accident Cost Allocation Act as proposed. This measure was previously ordered reported by the Committee on Energy and Natural Resources and I believe that we are obligated to move forward with our consideration so that we may address these issues.

In expediting our consideration, I hope members of the committee will not be hurried on their evaluation of its provision. This bill to me is critical not only to the people of Pennsylvania and New Jersey served by Three Mile Island's owners, but to taxpayers and utility ratepayers everywhere.

There are several basic questions. For instance: Should the customers of other utility companies be required to help pay for the TMI cleanup? Should the Federal Government contribute funds to the cleanup? To what degree should utilities be permitted to pass along to their customers the cleanup cost?

These are just some of the issues that I know members of this committee are going to be concerned with as we listen to witnesses. There is no question that the Three Mile Island plant cannot be permitted to remain in its present state over an indefinite period, but what we must decide is the way to best provide those huge amounts of money. What is it, $1 billion involved? Is that correct? Yes, almost $1 billion for cleanup in a manner that does not place excessive burdens on individuals and companies in a manner that does not establish the precedents that could be very unfortunate.

I thank the chairman.

Senator **STAFFORD**. Thank you very much.

Senator Gorton, do you have a statement?

OPENING STATEMENT OF HON. SLADE GORTON, U.S. SENATOR FROM THE STATE OF WASHINGTON

Senator **GORTON**. Thank you.

Mr. Chairman, we have before us today the proposed Nuclear Property Insurance Act of 1981 as that bill was amended by the Senate Energy and Natural Resources Committee on March 31, 1982. We will receive testimony, I am apprised, from representatives of the States of New Jersey and Pennsylvania, the private and public utility industry involved with nuclear power, the Nuclear Regulatory Commission, the Department of Energy, and the Union of Concerned Scientists.

I expect that this committee, and I in particular, will be better informed on the particulars of this legislation when the hearing is completed. Nevertheless, I wish to declare at the outset of this proceeding that I am firmly opposed to this bill.

The accident at Three Mile Island nuclear facility was a most unfortunate occurrence. It was unfortunate both for the individuals who reside around the facility itself, for GPU [General Public Utilities], and for the nuclear power industry generally. Like other members of this committee, I am concerned for the well-being, the safety and health, of those persons living around Three Mile Island who fear subsequent nuclear occurrences which may harm them.

I, like other members of this committee, am concerned for the economic well-being of GPU. Economic insecurity, and potential bankruptcy, of individual utilities are harmful to the public's trust of, and support for, the continued development of nuclear power. And, of course, economic insecurity and potential bankruptcy have a horribly inflationary effect on the rate of interest which public utilities must pay on bond issues which are necessary for construction in the nuclear industry. I do not believe, however, that this bill, S. 1606, would necessarily resolve any of these problems.

S. 1606, as reported by the Energy and Natural Resources Committee, would require that each utility with at least one operating nuclear plant pay an annual fee for the next 6 years toward the TMI cleanup. The fee, about 28 cents per kilowatt, would be assessed against the utility's nuclear generating capacity, including both plants with operating licenses and plants under construction. The maximum any utility would be required to pay would be $1.6 million annually. By this mechanism, all the ratepayers in any State which has invested in nuclear power would be assessed for the TMI cleanup. I believe that this approach is wrong.

The bill proposes a one-time solution to one utility's and one region's nuclear problem, based on the purported national interest in maintaining ratepayer and investor confidence in nuclear power as a major contributor to the Nation's energy needs. I support the desire to address this national interest, but believe that a one-time fix, supported by national contribution of funds, does nothing to promote that interest. The only legislation which will really address that interest would be legislation providing for a substantial and compulsory priviate insurance fund to which all utilities, both public and private, must contribute. It would have to be an insurance fund which would be capable of curing the shortcomings of all nuclear facility construction or operation, notwithstanding their cause.

Ironically, the approach created by this bill, in the version we have it before us, would have absolutely the opposite affect on ratepayers. Whereas ratepayer confidence in nuclear power would be the objective, ratepayer frustration would be the result. The general electricity consumer, who has expressed frustration over the rise in his electric rates because of increasing costs of electricity generation and because of the higher costs which nuclear power production will bring, can hardly be expected to appreciate the increase which this surcharge will cause just to cure the problem at TMI created by the mismanagement of utility personnel.

As you know, there is a case of immediate catastrophe within the nuclear industry which exists within the State of Washington. The incredibly fragile economic position of the Washington Public Power Supply System. WPPSS, which had earlier received authorization for the construction of three nuclear power reactors, began planning in 1974 for the construction of two more reactors, WPPSS 4 at the Hanford Nuclear Reservation at Richland, Washington, and WPPSS 5 on the Satsop River at Elma, Washington.

Fifteen individual public and private utilities authorized $100 million in development bonds to finance initial planning for the two reactors. By 1976, 88 utilities had joined in the WPPSS consortium which would build WPPSS 4 and 5. They sold $2.25 billion in long-term bonds, in different offerings ranging from $150 million to $210 million in the period between 1976 and 1980, retiring the first short-term bonds and beginning excavation for construction in 1977.

In 1981, with construction significantly behind schedule and construction cost overruns becoming common, WPPSS offered $200 million worth of long-term bonds for sale. There were no buyers. The offering was temporarily delayed, but no buyers emerged. Faced with the reality that construction funding could not be raised and that the energy consumption forecasts upon which the WPPSS consortium had relied in its planning in 1975 were seriously in error, WPPSS 4 and 5 management elected to stop construction of the reactor facilities.

Construction activity is now directed solely at "mothballing" the partially constructed facilities for their possible, but uncertain future use. Those individual utilities which make up the WPPSS 4 and 5 consortium face repayment of the $2.25 billion debt, which at the maturity of the issued bonds will cost more than twice that amount, without the electrical power product to sell. Their only alternative is debt or rate financing. In other words those utilities, and their ratepayers in Washington, Idaho, and Oregon expect that they will have to pay the bill themselves.

It would be popular in those states to advocate that the ratepayers of all other states who rely on some nuclear power all contribute to payment of WPPSS debt. However, the only logic which could be utilized to promote that national spreading of our region's debt would be, as with this bill before us today, the maintenance of ratepayer and investor confidence in nuclear power as a major contributor to the Nation's energy needs. Only if all ratepayers throughout the Nation could expect like treatment for the economic woes of the nuclear industry in their regions, could that logic prevail.

By comparison, the economic impact of the accident at Three Mile Island on General Public Utilities is far less than the economic impact of the loss of investor confidence in WPPSS 4 and 5. At TMI 2, only approximately 10 percent of GPU's assets are involved. At WPPSS 4 and 5, the investment, and the potential loss, to some individual cooperating utilities is greater than their entire capital value. Bankruptcy of several individual utilities may be in the offing.

Should any of you doubt the opinion of your constituents on the merits of this bill, I recommend that you review the "Analysis: Costs to Utilities and Ratepayers" in the notebook which our committee staff has assembled. There you will find an analysis, by utility and by state, of the contribution which will be required to accumulate the funds contemplated by this bill. Then contemplate: were the Washington Public Power Supply System to be making a similar proposal, requesting only a 25-percent contribution from ratepayers nationally, the numbers on that analysis would be three times as large if you only consider the outstanding debt.

It is my opinion that this is a bad bill. The Senator from Wyoming is, of course, correct in stating there are significant health and environmental concerns. If it were impossible for the local ratepayers and the stockholders of GPU to pay for those environmental and health concerns we might be faced with a different question. That, however, is simply not the case. This $170 million, while it may provide some burden for those ratepayers, is certainly well within their ability to handle and well under the burden which will be imposed on ratepayers in my own state. They can and should be responsible for the cost of the cleanup which the neglect of the utility managers themselves caused to be required in the first place.

In my opinion this is a poor bill. I request that other members of this committee see the bill for what it is: a device to return to relieve the utility involved, and the stockholders and ratepayers of that utility, from bearing the cost burden for an accident related to the production of energy which they support and use. There is no assurance, either in the language of the bill or in the precedents of the case, that another utility in a similar situation would receive any similar assistance. There are worse cases from the point of view of the ratepayer such as my own and I suspect there will be others throughout the country.

I firmly recommend that the committee reject it. Thank you very much.

Senator **STAFFORD**. Senator Mitchell.

OPENING STATEMENT OF HON. GEORGE J. MITCHELL, U.S. SENATOR FROM THE STATE OF MAINE

Senator **MITCHELL**. Thank you, Mr. Chairman.

Members of the committee: The purpose of this hearing is to consider the implications of the Nuclear Property Insurance Act, S. 1606, which would fund a portion of the cleanup of the contaminated unit 2 nuclear powerplant at Three Mile Island.

The recent 3-year anniversary of the accident at TMI is a testament to the indecision which has persisted over how to proceed in funding the cleanup. The fact that no viable funding package is yet in place is a testament to the complexity and difficulty of the efforts to finance the cleanup.

At issue are two essential concerns. The first and most important is safety. NRC Chairman Palladino has made it clear that a serious safety concern exists at the TMI-2 facility. That concern includes the potential for a slow degradation of containment integrity and equipment capability. More importantly, radioactive material at the plant which may breach existing barriers and escape into the nearby Susquehanna River poses an increasingly serious danger. The safety concern is a serious and valid one. Our discussion on this legislation must keep safety at TMI foremost in mind.

The second issue is how to pay for the cleanup; we must determine where the financial responsibility for the cleanup lies. The inability to answer the question of responsibility has thwarted a decision to proceed with a full-scale cleanup for the more than 3 years since the accident. The bill before us now attempts to provide a solution to the present impasse by assigning a portion of the financial responsibility to ratepayers nationwide.

S. 1606 federally mandates a commitment from nuclear utilities across the country to pay a share, approximately 20 percent of the total projected costs of the cleanup. The bill would transfer about one-fiftieth of the cost of the Three Mile Island accident from GPU's ratepayers to those of other nuclear utilities nationwide. In the process, it would effectively place part of the responsibility for the accident where none of the responsibility lies. This is one of the bill's most serious and critical drawbacks.

Yet another reason for the apprehension over creating a funding package is the realization that whichever way the TMI question is settled it will establish a precedent for all future accidents at nuclear powerplants.

S. 1606 proposes to fund a portion of the total cleanup in a manner I believe would clearly set a dangerous precedent. In essence, the bill would ask the customers of all nuclear utilities to pay a portion of their monthly bills for the TMI cleanup. It would ask Maine's ratepayers, for example, to pay over $1.1 million to help defray the costs of the TMI cleanup. It would ask Maine's ratepayers, for example, to pay over $1.1 million to help defray the costs of the TMI cleanup. This is neither a fair nor a responsible approach.

The accident at Three Mile Island was not caused by an act of God or a natural disaster. It was caused by errors of management and equipment operation. The accident is among a host of events and difficulties to reasonably expect from the operation of a nuclear powerplant. It is among the known risks of nuclear power.

Furthermore, what happened at Three Mile Island is not the first or the only example of nuclear power gone awry, or nuclear power gone expensive.

In March 1975, a serious fire broke out at the Brown's Ferry 3-plant facility in North Alabama. The Tennessee Valley Authority paid out an estimated $13.25 million in repair and modification costs for the facility. In the 17 months following the fire, while the plants were shut down, TVA paid out approximately $230 million in replacement power costs. These costs were borne by TVA and its customers alone.

I have already discussed my questioning the events at Maine Yankee and Senator Gorton has discussed in detail the events in the State of Washington, so I won't repeat those here.

This legislation, however, proposes a new alternative. It would spread out the burden of the TMI cleanup so that ratepayers across the country would absorb a significant portion of GPU's losses. By so doing, the legislation would set a disastrous precedent under which future accidents, mishaps, or financial difficulties at nuclear powerplants could simply be subsidized by this Nation's consumers of electricity—that means effectively all Americans; at least those using nuclear power.

This basic principle underlying the legislation, electing to shift responsibility for the cleanup from one set of ratepayers to ratepayers nationwide, runs completely counter to the American free-market system. S. 1606 provides a federally mandated commitment from ratepayers nationwide to pay for a risky, private sector, business investment for which these same ratepayers stood only to lose. I doubt that if GPU had not encountered the March 1979 accident, ratepayers nationwide would have stood to receive a dividend from GPU.

In closing, it is imperative that, in our consideration of this legislation, we closely review those issues which are central to the cleanup question and which may lead to a more viable and prompt solution to the present impasse.

First, if there are to be contributions from nuclear utilities, there should be prohibited any passthrough from the utilities to their ratepayers of the percentage of the TMI-2 cleanup fee specified for nuclear utilities.

Second, we must further evaluate Edison Electric Institute's failure to make good on its promise of a so-called voluntary commitment by nuclear utilities. It is imperative that we determine whether in fact there is a need for Federal legislation.

And finally, we must further evaluate and scrutinize comparisons between the rates paid by GPU's customers and those paid by customers nationwide, and particularly by customers in the Northeast.

In that regard, Mr. Chairman, I will end by quoting in the statement of the Tennessee Valley Authority, which has been submitted in opposition to this legislation and I quote:

> The GPU rate increase that would be necessary to pay all the TMI-2 cleanup costs are not more than should be appropriately assumed by GPU customers.
>
> The GAO has estimated that rate increases sufficient to pay all such cost would range between 4 percent and 15 percent. The Chairman of the GPU has estimated these rate increases would range from 5 percent to 16 percent.
>
> Even with these increases, however, customers of several neighboring utilities would still have higher rates according to the General Accounting Office.

Thank you, Mr. Chairman, I look forward to the testimony.

Senator **Stafford**. Thank you very much, Senator Mitchell.

Senator Simpson.

OPENING STATEMENT OF HON. ALAN K. SIMPSON, U.S. SENATOR FROM THE STATE OF WYOMING

Senator **Simpson**. Thank you, Mr. Chairman. I want to thank you for your activity in this area and Senator Gorton also, who has agreed to assist me from time to time with my schedule of chairing activities with regard to this.

The Energy and Natural Resources Committee has proposed this bill attempting to reach a solution of the issue and now the bill is here and this is where it should be. This committee has the essential primary jurisdiction over the Nuclear Regulatory Commission and over the regulatory activities of this Commission and over the mission of the commission which is the public health and safety.

I want to reemphasize the concern that I think all of us share and that you have all said in your statements of the continuing risk to the public health and safety posed by the TMI reactor in its present condition. I think it is absolutely essential that the cleanup effort move forward swiftly. We do not have the luxury of total outright rejection or criticism. We have the high responsibility of furnishing alternatives, and that is what was done first and that is what the Energy and Natural Resources Committee has done and now it is back in our court, time for solutions.

For 3 years, the reactor has been virtually in the same condition as it was following the accident. Steps have been taken. If you read the reports and the research you will see that decontamination is taking place. Much of the accident water contained in the auxiliary building and containment building is being decontaminated.

I am personally pleased to see that the system which we had serious doubt about at one time, at least I did, was devised for decontamination of the water, has worked as well as it has. It now appears that continued progress in cleaning up the remainder of the reactor, including this critical step, and you can imagine what is going to take place in this country when we examine and remove this highly radioactive core and take it to one of the laboratories of the United States and put it on a flat bed or into some other mode of conveyance, wait until we get to that point.

We are going to be slowed, not only by that and the high emotion that it will generate, and everything in this game generates high emotion, I found that, it is going to have now the lack of adequate funding which is going to pose again a significant risk, not only to the public health and safety, but to the environment of that area.

As I indicated last October, equitable distribution of the cost of cleanup is proven obviously to be the most difficult thing to resolve. Some progress has been made by Senators Heinz and Bradley in proposing this.

I am pleased to see the contributions coming from those who will benefit most from the cleanup. Those who live in the general public service area are now part of the proposed solution. But I guess I am going to say again that my preference, too, for the solution of the financial problem does not depend on further financial commitment by the Federal Government. I think the Federal Government has been carrying this industry for entirely too long a time and created it and carried it, that was their function.

Aside from those commitments last year by the administration to undertake this carefully designed research and development activity for about $125 million, I don't support the resolution of the financial problems posed by this accident by direct Federal participation.

This is a different approach today, it assigns a portion of these costs for these electric utilities with these counties for at least one operating nuclear powerplant and does that by this means of a mandatory fee on nuclear regulatory capacity.

This proposal, I think, is generating a great deal of controversy. It will, but this hearing will give us some idea of where we go from here if we don't do that, and that is what I am principally interested in, where do we go if we don't go for this method, or the method that was originally proposed in the bill before it was amended by the Energy Committee and this is our opportunity to explore the present status, the financial impediments to further progress, health, and safety, the inability to move the impact of the fee program and chart all that out.

I would conclude and say there is something very right about the Nation's nuclear commercial plants joining together with regard to what occurs to one is what indeed has an impact on them all. I think that indeed those who use this energy source should be involved in the issues of the misuse of that energy source and they indeed have the most to fear and the most to lose, and they either take part or they get taken apart in this highly volatile and emotional arena of nuclear power. I believe it is an important part of our future energy mix, but I also deeply believe that we must pay careful attention to their unity in resolving it and if that means a unity in putting up the money, that is part of the unity.

So, those are my thoughts, Mr. Chairman, and I say again, we can go on and on and on, but it is not going to go away, and it does not matter even if we are told that things are not critical there. I can assure you, knowing what I have learned in 3½ years in the arena of nuclear regulatory activities, and the volatility of rage and emotion and high old hurrah that goes with it, that we will begin now to see a series of articles about cracked pipes and vapors, and mystery gases. It will be an extraordinary thing to watch. It may be true; it may not be. I love the phrase, "important if true" in this area. So those are the things that will begin to generate because I know how this works in the United States when you have that kind of thing sitting there in that kind of ruptured condition.

Thank you, Mr. Chairman.

Senator **Stafford**. Thank you very much, Senator Simpson.

I think it would be appropriate for the committee to recess temporarily because we do have a rollcall in progress at the present time, and as soon as we can return, and I hope members who are interested in this, and that should include all of the committee, will be able to be here for the panels.

We have three panels to hear and then an individual witness before we complete these hearings. The first panel will be Susan Shanaman, chairman, Pennsylvania Public Utilities Commission, and Barbara Curran, president, New Jersey Board of Public Utilities, who will be accompanied by Rinaldo D'Arenio, assistant to the president.

If they care to, they might work up toward the witness table. We will be back as soon as we can.

Senator **Randolph**. For the record, you have indicated you hope that members could be here. I think it is fair to you and fair to me to say that the schedule that I have today will just not permit me to come back except perhaps for a few minutes.

I am intensely interested.

Senator **Stafford**. The chair recognizes that all of us should be in three places at once, the way the Senate is running. We will stand in recess.

[Brief recess.]

Senator **Stafford**. The committee will please come to order.

We will ask our guests in the hearing room to kindly take seats and refrain from audible conversation.

It is obviously going to be necessary, with frequent votes now, for us to proceed with those Senators present who can be away from other duties this morning. We want our guests and the panelists to know that all Senators will be represented by staff, as we have been, and will be made aware promptly of the testimony that we receive today, and that the chair does not intend to proceed further with this matter beyond hearings until members who are not present have an opportunity to be advised by their staff members and the committee staff of the gist of all of the testimony which we hear.

The next vote is likely to come within the next 15 minutes and to the extent we can, Senator Mitchell and I, and any other Senators who are present, will try to operate on a shift basis so that one of us can vote while the other is presiding and keep the hearing going. It is the chair's intent to run through until about 1 p.m. if that will finish the hearings. If that turns out to be impossible, we may have to break for an hour and come back in the afternoon. But for your convenience and ours, we will prefer to try and finish.

Having said that, the chair would be pleased to hear you, Susan, if I may call you Susan, and we recognize you are chairman of the Pennsylvania Public Utilities Commission.

We will urge all our witnesses, if possible, to complete their oral testimony in 5 minutes by summarizing their detailed statements, which we will place in the record in full.

STATEMENTS OF SUSAN SHANAMAN, CHAIRMAN, PENNSYLVANIA PUBLIC UTILITIES COMMISSION AND BARBARA CURRAN, PRESIDENT, NEW JERSEY BOARD OF PUBLIC UTILITIES ACCOMPANIED BY, RINALDO D'ARGENIO, ASSISTANT TO THE PRESIDENT

Ms. SHANAMAN. Good morning. Thank you for inviting me to testify on Senate bill 1606.

I have, as you have noted, a full statement plus an attachment, and hopefully I will summarize that for you.

I come before you today to tell you that Pennsylvania has developed a workable plan to equitably fund the cleanup of the crippled TMI unit 2 reactor. It is a plan that distributes the cost between TMI plant insurers, the TMI consumers, the Commonwealth of Pennsylvania and the State of New Jersey, the electric utility industry and the Federal Government. You have the essence of the plan before you in Senate bill 1606, Heinz-Bradley.

Several of the groups involved in the funding the cleanup action have taken action to commit their share of the needed money. The remaining TMI plant insurance is available, $90 million. Presidential Counselor Ed Meese assured Pennsylvania Governor Dick Thornburgh by letter last fall that the President intends to request from Congress such funds in future year for TMI's radioactive cleanup and waste removal, $125 million.

Governor Thornburgh recently signed Pennsylvania's 1982-83 budget which contains the first annual installment of Pennsylvania's $30 million share. Last January, the PUC allowed the TMI owner companies subject to our jurisdiction a $37.5 million rate increase to help meet their $425 million share. Both companies will be required to escrow this money for use solely in the cleanup of TMI-2.

As an aside, the dollar value of the two rate increases was tied to the startup of the undamaged unit 1 reactor. In a nonbinding referendum in Tuesday's primary election, voters in three central Pennsylvania counties voted against restart. This Commission, however, is committed to assessing ratepayers their fair share of the cost.

Last September through their trade association, the electric utility companies pledged their industry's $190 million share. These commitments clearly show that the proposed cleanup funding plan will work. We need legislation to insure that the money is forthcoming from those commitments. Legislation would also protect utility companies from suits by shareholders. Since this funding plan was proposed there has been a blizzard of rhetoric from opponents. Federal and industry funds from the TMI cleanup will be a bailout from GPU, they claim.

I don't buy that argument. TMI cleanup is a national problem and it requires a national solution. I don't believe it is morally right or even constitutionally proper to ask GPU ratepayers to bear the entire burden of the cleanup. TMI sits at the very edge of GPU service territory. Radiation from the plant would spread in all directions and poses a threat to the health and safety of the PP & L customers in Harrisburg, Hershey Electric customers in Hershey, PECO customers in Philadelphia and many others.

We cannot ask the GPU ratepayers who could be far distant from TMI, from New Jersey or Pike County in the northeast corner of Pennsylvania to be solely responsible for the health and safety of the people of central Pennsylvania.

To clarify this position, I would like to step back for a moment and look at the legislation and events that have brought us to this point.

The key piece of legislation at issue here is Price-Anderson. The provision of Price-Anderson that is critical to our legislation on TMI is a limitation of the responsibility of a utility company in the event of an extraordinary nuclear event to $560 million for offsite damage. Price-Anderson commits the Federal Government to pay for damage over the $560 million. The concept is to hold the utility culpable in an accident but only up to a reasonable point; beyond that the Federal Government would deal with the burden. Part of dealing with that burden, of course, was the Price-Anderson provision that each nuclear reactor in the country be assessed up to $5 million to pay for offsite damage not covered by insurance money.

Price-Anderson left a void, however, in failing to address the problem of onsite damage that could potentially cause damage coverable by Price-Anderson in light of the Price-Anderson recognition that nuclear accidents are a national problem. It is simply unfair to force GPU ratepayers to pay the entire cost. Yet no Federal legislation exists to do the job.

The remedy we seek through Heinz-Bradley would fill the legislative void in a matter entirely consistent with Price-Anderson. GPU will be financially responsible up to a reasonable point. The Federal Government would then deal with the remaining cost by assessing them to the States and to the industry. I believe this solution is equitable and it is consistent with existing law.

There is another compelling reason why the Heinz-Bradley funding proposal should be adopted however. At the time of TMI unit 2 construction Pennsylvania took a different interest in the problems that could arise from nuclear plant operation. In 1972, then-Senator Schweiker moved legislation that would have amended the 1957 Atomic Energy Act to permit the States to set higher standards than Federal standards in limiting nuclear powerplant radioactive discharge to the environment.

This legislation was defeated by five votes. During the 93d Congress in 1973 the Senate considered the Price-Anderson Act. Senator Schweiker attempted to amend Price-Anderson to permit the States to impose higher insurance requirements on nuclear operators. Senator Schweiker said the State should have the right to impose additional requirements for insurance coverage for nuclear facilities to protect their people in those instances where State authorities feel that there are sound grounds for expanded or additional protection.

In addition, States such as Pennsylvania with reactors in high population areas ought to be able to require higher insurance protections for their citizens than the Federal current limits allow. Actually my amendment would give the States the right individually or together to work together in Pennsylvania and New Jersey. They could get together as to their liability as to State commissions and have the potential to do something.

This effort also failed. Despite support from all four Pennsylvania and New Jersey Senators, Schweiker, Knox, Case, but in voting against it, the Senate assured Senator Schweiker on the floor that the Federal Government would provide any additional relief justified should Price-Anderson prove to be inadequate after an accident.

Several conclusions can be drawn from this. First, had the Schweiker amendment passed, TMI-2 might be insured in sufficient amount to cover the cleanup. Second, while Price-Anderson acknowledges Federal responsibility for offsite damage, it does not address the issue of lingering onsite damage with the potential to cause severe offsite damage. It therefore fails to specifically cover the situation we have at TMI.

To my mind, this is what the Senate assured Senator Schweiker 8 years ago that they would take care of.

The situation at TMI-2 must be resolved. Federal help is vital to a resolution of the problem. Yet there is a stumbling block to passage of the legislation that would get the job done. But umbrage has been taken with the passage at the beginning of Heinz-Bradley that serve as something of a testimonial to nuclear power. Because of this language, those who opposed are critical of nuclear power, are not giving the primary purpose of this bill—the removal of the menace of TMI-2—the consideration it deserves.

I can understand their reasoning. In its present form Heinz-Bradley could be construed as an endorsement of nuclear power. But the proper nuclear language is extraneous to Heinz-Bradley's ability to resolve the cleanup funding problem. I respectfully recommend deletion of all findings and other language not legislatively necessary to Heinz-Bradley provisions pertaining to contribution by another nuclear utility not exceeding one——

Senator **STAFFORD**. Would it be possible to summarize?

Ms. **SHANAMAN**. I have to answer the questions in your April 22 letter. You ask whether the legislation should include a prohibition on passthrough to the utility ratepayers of specified percentage of the TMI fee. I suggest it should not. The reason for this, in view of the fact that the nuclear companies are willing to pay this fee, that the decontamination of this nuclear accident will improve the economic status of those nuclear companies and the ratepayers they serve, in part by reducing or limiting the overall cost of their capital, which their ratepayers have to pay.

I think you have to let the experts, the State commissions, do their job and not try to guide or misguide them. Whether the legislation should require financial contribution to the cleanup by the major nuclear reactors manufacturers in this country respectfully, morally, I believe it should provided that would not generate lobby opposition preventing its enactment. Whether the legislation should require—determine that rates paid by GPU are comparable to rates paid by other regions particularly the Northeast of the country, no, it should not.

Electric utility rates in this country were not comparable in the past, they will not be now, and they will not be in the future for reasons other than TMI.

This was the worst commercial nuclear accident in history. More than 3 years after the accident we still do not have a final official plan to pay for the cleanup. Heinz-Bradley would meet that need equitably.

Thank you.

Senator **Stafford**. Thank you very much, Ms. Shanaman.

The next witness is Ms. Barbara Curran, president, New Jersey Board of Public Utilities. We welcome your testimony. We again ask if you can summarize in about 5 minutes. This is a 5-minute hourglass.

STATEMENT OF BARBARA A. CURRAN

Ms. **Curran**. Thank you.

I might start out by saying that I endorse wholeheartedly most of the substantive comments made by my colleague from Pennsylvania. And on behalf of the board I would like to thank the committee for its intense interest and thank you all, whether you have demonstrated support or perhaps questions today, for your interest and for your concerns. I am hopeful that these hearings will accelerate the thoughtful discussions concerning the problems faced by the 1.6 million customers of the GPU operating companies and, of course, uncertainties associated with the substantial slippage in TMI-2 contamination, and, of course, the ongoing financial penalty being imposed on all ratepayers throughout August as a result of the failure to solve some of these problems.

Immediately after the incident, the New Jersey Board began to develop its overall sharing approach to deal with the financial aftermath of the incident. The board has articulated this strategy in a variety of forums, and I know you have detailed testimony in that regard before you.

We believe that the logic of sharing is compelling. Based on the findings of the major studies of the incident, the board believes the incident occurred as a result of complicated institutional weakness in both the public and private sector, I won't go into great detail. We feel that the NRC itself, for reasons of which I am sure you are aware, having reports before it, and not sharing those reports with the company knowing that the reactor was exactly the same as that at the Davis-Besse plant in Ohio, was certainly a major contributor to this problem.

Given, as we view it, the inseparability of the responsibility for the incident, it follows we believe in New Jersey that equitable sharing must be the focal point for the recovery.

Since the incident at TMI, the board in New Jersey has granted $433 million of additional revenues to Jersey Central and this amounts to a 72-percent increase over the rates that were in effect when the accident happened. I might mention that the board has before it now a request for $242 million to address the attrition issues, support the return of TMI-1 when it returns to service, and as requested to address the cost of the decontamination and the rate recognition of the investment at TMI-2.

Given the amount that is being requested in New Jersey, if that amount were granted, that would amount to a 116-percent increase in rates for the ratepayers of Jersey Central.

Recently, the board approved a request to improve the surcharge over the next 5 years to raise $100 million to partially finance the proposed 1,000-megawatt Ontario Hydro Interconnection which will bring lower power to the coastal States. The pending actions will play a role in the recovery process and have the prospect to provide safe and proper service to the approximately 700,000 residents within our jurisdiction. We are confident that the Heinz-Bradley legislation, in conjunction with Governor Thronburgh's proposal, will provide the vital link that we need to get this program underway.

The board has closely monitored and evaluated the various sharing proposals developed in response to the incident. I would like to take this opportunity to thank you again for your involvement in those proposals and your analysis of them.

The board has evaluated the concepts and evaluations set forth in the Heinz-Bradley legislation as it relates to the proposal of Governor Thornburgh and it is our conclusion that the legislation provides a signficant opportunity to resolve many of the issues relating to TMI. The foundation of the legislation and the Thornburgh proposal is the equitable sharing of the costs of the decontamination.

The Thornburgh plan identifies the major participants in this equitable sharing process and we feel that it will indicate a way to implement a solution to the various serious problems that are facing not only the ratepayers of Pennsylvania and New Jersey but the ratepayers throughout the Nation.

The Federal Government has committed to providing substantial technical assistance to the project and $120 million in financial assistance. The Edison Electric Institute has issued its plan to participate in the recovery efforts and indicated its willingness to support these efforts with $192 million to be collected from its members. In this regard, and in answer to a question raised earlier, we believe it is crucial to firm up this legislation in order to allow those various pieces to be put into place.

The recent actions of the Pennsylvania Public Utility Commission, as outlined by my colleague, certainly emphasize their commitment to the proposal. As I indicated, New Jersey has a large rate proposal before it at present and also the new administration in New Jersey, which is only a few months old, has indicated strong support for the project. In answer to the questions submitted to us both, our Department of Energy and our Public Advocate, have come forth with very strong endorsements of the sharing concept and the Governor of New Jersey is now working at the staff level and personally with Governor Thornburgh to move forward on his recognition of his support for the project.

I will be happy to answer any questions you do have. I might just say for the record, I see that the Senator from Washington is no longer here, but I just do want to point out to him through the records that he talked about, that abandonments and authority are tremendous obligations, and obligations that all of us in the regulatory area are concerned about. I do want to make it clear that in New Jersey the ratepayers are carrying substantial obligations for abandonment for which we have not certainly approached the Federal Government in any way, shape, or form.

We have two abandonments in regard to public service and offshore nuclear facilities and the recent Hope Creek abandonment.

Atlantic City Electric has been forced to abandon No. 2 and Forrest River was abandoned by Jersey Central because they did not have the money to continue the project; they felt it would be very valuable to the people had they been able to complete it.

Senator STAFFORD. Thank you both very much. We will now go to questions.

I think the Chair will start with the observation that listening to the distinguished Senators who were in front of us earlier and being given the impression that 1606 is designed as an insurance method for the country, the title of the trust fund to be created, it doesn't really sound that way to me since it is entitled under the bill. I think that TMI cleanup trust fund, that hardly sounds like something created to protect the ratepayers of Vermont or Maine or any place else except the State of Pennsylvania and the State of New Jersey or wherever else the parent organization of its own TMI exists.

To bar rancor and I would address this question. Recognizing the limitations on discussion of pending cases, what can you tell us about the status of the rate case currently before you for decision?

Ms. CURRAN. The case has gone through our administrative process through what we call the Office of Administrative Law, basically factfinding, has been completed. The board reserved to itself certain issues and is now in the practice of hearing those issues. The question of the cleanup cost is probably primary among those issues. I would say that the case would proceed to a decision roughly at the end of June.

Senator STAFFORD. I will address this question to both, first again to you Barbara.

Would your agency look favorably upon a request to include the $170 million addressed in this bill in the rate base of Pennsylvania and New Jersey customers?

Ms. CURRAN. The additional cost, Senator?

Senator STAFFORD. Yes.

Ms. CURRAN. Obviously if the sharing proposal does not work, there would have to be other alternatives worked out and I think the Senator this morning indicated that. Right now, as you may know, under the Thornburgh proposal the share for GPU customers is $240 million. That is above anything else that we are talking about right now. In addition to that, the States of New Jersey and Pennsylvania are committed through their budget processes, or will be committed, an additional $45 billion. Obviously if the $170 million here is not accepted under the proposal, I don't think it would be a matter of our automatically assuming that should be put into rates, I think it would be a matter of our having to attempt additional solutions and, frankly, this appears to be by far the best solution.

I think I would echo the comments Senator Bradley made this morning.

Senator STAFFORD. Ms. Shanaman, would you care to comment on that?

Ms. SHANAMAN. I would concur. When we are talking about this although cost sharing is going about, I think we must recognize if you add up the $245 million to be paid by GPU ratepayers, the $45 million by the States which are coming from gross receipts, taxes previously paid by those same ratepayers, in 6106 which would eventually require $20 million from these States of Pennsylvania and New Jersey, you are talking about a total of $310 million or slightly less than half the uninsured cleanup cost that we are here saying that rightfully so Congress should be dealing with.

Senator **Stafford**. Thank you.

Ms. Shanaman, the Public Utility Commission's recent rate decision ties the availability of certain funds to the cleanup of TMI, to a restart of TMI-1. As a result pending restart, restart TMI, ratepayers in Pennsylvania will make no contribution to the cleanup. Can you explain the commission's rationale in light of the underlying principle of the Thornburgh proposal to secure early commitment of funds from who will benefit from the cleanup?

Ms. **Shanaman**. The Commission in Pennsylvania was faced with a settlement proposal. It was not a decision, a normal decision of the commission in the sense that we helped dictate what those terms were going to be. The settlement proposal of the parties, namely, GPU, the Consumer Advocate, and our trial staff, and other parties, tied the two together.

I would indicate to you forcefully and strongly that agreement is to run for a year. The commitment of Pennsylvania to the cleanup dollars is there. it will continue, it is a legally binding order and certainly the fact that it is currently tied to TMI restart should not weigh in their minds against our commitment.

Senator **Stafford**. Thank you very much.

Senator Mitchell?

Senator **Mitchell**. Thank you, Mr. Chairman.

I would like to follow up on that.

Is it not, then, possible that if this bill passes and TMI never starts up, that everybody else in the country will have contributed to constant cleanup except the people more immediately affected?

Ms. **Shanaman**. I don't think that is correct. If I may, if you are talking simply in terms of GPU ratepayers, they would have paid in terms of amortization of the investment cost in that unit regardless of whether or not it starts.

Senator **Mitchell**. I am talking about the cost of cleanup.

Ms. **Shanaman**. The cost of cleanup——

Senator **Mitchell**. Didn't I understand your answer to Senator Stafford to be under your ruling the cost of cleanup will not be borne by persons subject to your jurisdiction unless TMI starts up?

Ms. **Shanaman**. I think you perhaps misunderstood my response. That is currently the status of the order of the commission of January of this year in response to our agreeing to accept a settlement agreement of the parties. That settlement agreement has a year's time limit on it. At the end of that year, or before Tuesday, if the parties come before us and ask to make any changes, we can, of course, consider that. I tried to indicate that you—any fear that we were only committed if TMI restart should be assuaged by my statement to you that we are committed to clean up dollars. It is by accident, if you would put quotes around that word, that the two were tied together in the settlement agreement. I am sure if the parties would have recognized all that was going to occur since January 8 of this year, they would not have tied the two together. The ratepayers will pay.

Senator MITCHELL. Are you the sole commissioner in Pennsylvania?

Ms. SHANAMAN. We have five commissioners. I am chairman.

Senator MITCHELL. Your assurance today has no legal effect, has it?

Let me say providing a little more assurance if the commission acted in accordance with the manner you stated as opposed to the assurance of one commissioner that has no legal effect.

Unless and until you do act, the situation does exist that when TMI doesn't start up, when we pass this bill, everybody in the country would have paid for the cleanup except the people in your area. Unless you act, that is a possibility.

Ms. SHANAMAN. I don't think so because you are making the assumption at the end of the year. When I say the year's limitation on the settlement agreement because there is a stay-out provision in terms of the company coming back and seeking additional rate release will in fact go through this year, next year and the following years and GPU will never come back to us. That is not anywhere in the cards. I am sure we all appreciate it, and the ratepayers, but that is not in the cards. The commitment is there. We have a legally binding order and we will never get to the A stage where the rest of the country had helped pay for the cleanup and the GPU ratepayers had not.

Senator MITCHELL. That leads me to a question of Ms. Curran. Earlier, Ms. Curran, I cited testimony commenting on the GAO's study and the statement of the chairman of the GPU that if the costs were borne entirely by those directly affected, that the GPU customers, that rate increase would be by one estimate 4 to 15 percent, by another estimate 5 to 16 percent.

You testified that the ratepayers of one company have experienced 72 percent rate increases. Is it your testimony that related exclusively?

Ms. CURRAN. Not at all.

Senator MITCHELL. So the statement is not directly relevant to these proceedings, they have experienced a rate increase of 72 percent for purposes and reasons unrelated to TMI cleanup?

Ms. CURRAN. I don't think they are unrelated. They are not cleanup costs per se. But they are for the most part directly related in that they are primarily for the additional cost of purchase power.

Senator MITCHELL. My question is, as I said earlier, what is wrong with imposing a 10-percent increase on the GPU customers that would pay the entire cost of cleanup and would still leave those customers paying less than ratepayers in other areas who, you are suggesting, should be drafted to help participate in this cleanup?

Why isn't that fair?

Ms. CURRAN. It is tough to ask anybody to be of assistance in this regard unless you accept the premise that all of us will benefit from the sharing concept. I accept that premise. You may say that is because I am from New Jersey, but frankly, when you talked earlier this morning about the insurance questions and the limits, and who pays there, as a result of the TMI accident, your ratepayers, as well as ours, are now protected up to an $800-million limit.

You indicated that you were concerned about this because it might set a dangerous precedent. I support it because I think it will set a precedent. I don't consider that precedent to be dangerous. I think that no matter what State we look at, we will not find a utility who could support, no matter what they felt they would impose on their ratepayers, much of an accident above the $800-million on their own. I think it will be very difficult for them to do that. Therefore, when we get back to the rates that you indicated, I. guess we are simply talking perhaps about different sets of numbers.

For one thing, it is difficult to know where you get a 10-percent figure, is that on rates as they were—I understand it comes from GAO. Is that on rates presently?

Senator MITCHELL. And the chairman of GPU as well.

Ms. CURRAN. They are talking about additional percentage on top of the rate increases that the residents of this jurisdiction have already had.

Senator MITCHELL. But you would be paying less than people—it is like the guy who experiences a casualty loss, he can't drive, but he is still wealthier than his neighbor, and he says, "I think you ought to help me fix this up. That doesn't seem fair."

Ms. CURRAN. I can agree. We do not seem to see the figures the same way. You talked this morning about figures in certain States.

In the figures that we indicate, and I believe that one of the Senators made this point earlier this morning, for let us say Central Maine Power, we indicate an average rate of 6.7 percent. Right now without our rate increase which is pending, the ratepayers of Jersey Central are at 8.6 percent.

Under the statistics——

Senator MITCHELL. Do you deny that even if the entire cost is borne by GPU customers, that they would still be paying lower rates than some ratepayers in the country who would by this legislation be forced to contribute?

Ms. CURRAN. I would deny that with two exceptions, that the residents who live within the ConEd jurisdiction may still be higher, but other than that—and in regard to the average cost, we are talking about two things, the cost per kilowatt-hour and ConEd may wind up higher than Jersey Central in that regard, no matter what happens.

In regard to the average bill, which is another function of regulatory concern, right now this company is in maybe the top three States as far as what they are paying right now. Senator Bentsen's State has perhaps the dubious honor of perhaps having a higher average yearly bill, higher than the Jersey bill, which is $700 per year on an average. That, however, is due not so much to its cost per kilowatt-hour, which is lower than Jersey Central, but because of the huge draw they have in the summertime for air-conditioning units.

Senator MITCHELL. My time has expired. I won't pursue it any further.

Thank you.

Ms. **Shanaman**. Senator, could I add something to my colleague's response to Senator Mitchell?

I think we have to step back and look at what we are dealing with. You have several times referred to what if we were in private industry and going and asking for a handout from the neighbors. There is a difference here. But for the fact that we are dealing with high level radioactive waste, we could say, let's shut the plant down, let it go and we won't worry, write it off and ignore it.

Senator **Mitchell**. Let me say I try very hard to make my position clear. I believe this very serious safety problem must be addressed. I think it is not true to suggest that unless this form of contribution legislation is enacted, that that leaves the safety problem unaddressed.

I think it is an unfair connection to say if you oppose this bill, you are not concerned about safety. I think we are all concerned about safety, the question is, how best to achieve that objective. You, in good faith, and with proper motives, are doing your job coming to pursue one point of view, but those of us who disagree with that point of view are no less concerned about safety.

Ms. **Shanaman**. I was not suggesting that. The residents who could be radiated by future occurrences at the island are not GPU customers. To suggest that GPU customers are the only ones who should pay for the public health and safety of the resident is not fair and it is probably not constitutional. And I think, third, we have to look at why do we have the private development of nuclear power today anyway in this country, and that is as a result of the assurances of Price-Anderson, and the whole threat that underlies our nuclear industry that Congress recognized there was a threshold beyond which one industry, one utility, could not bear the cost of an accident and the remainder of the cost of that accident would be spread across the rest of the nuclear industry in fairness and constitutionally.

Senator **Stafford**. I thank you both.

Ms. **Curran**. May I make one last comment in that regard? It will be the last comment.

Senator, I think the other concern, and no one questions at all your dedication to the health and safety issues, there is another factor here that is overriding. Nobody says this is the best plan that anybody ever created, or that it is a plan we all hope to have to act on.

As Senator Bradley said, it appears to be the very best of a lot of difficult alternatives. I think that one that goes unsaid and unrecognized by regulatory commissioners throughout the country is that their ratepayers are paying the cost of TMI right now and very, very substantially. I know that you have a fair amount of financial expert testimony, I know that the Committee on Interior over at the House has heard from a number of representatives of the financial community, not just in regard to bankruptcy, which everybody likes to key in on, but in regard to the very substantial basis points of risk that are being paid by every utility throughout the country right now, and I would think that from at least their figures, and certainly the figures we have that the average of 12 cents a year, which has been indicated to us, would certainly be well offset by what they might lose.

Senator **Mitchell**. I will take the final word. It is precisely in legislation which prolongs the situation at TMI because as long as there is the prospect of Federal funding proportionate to this, you and Ms. Shanaman are not going to do that which you will ultimately have to do when this legislation fails, if it fails, and that is to impose the cost to the ratepayers of GPU, and were it not for this legislation, were it not for this seeking of another alternative, I believe the problem would have been addressed previous to now and the longer this type of looking for some other alternative continues, the longer the delay, the greater safety and health concern. I believe that the best thing we can do to address health and safety is to kill this bill right now and force you to do that which you and Ms. Shanaman know you will have to do when it fails, and which was not inequitable to the ratepayers in that area, a burden indeed, a heavy burden indeed but not unfair.

Senator **Stafford**. Now that we all have had the last word on that, Senator Burdick?

Senator **Burdick**. I am going to ask one question.

You use the words "in fairness," in fairness the utility is 1,000 miles away as the average ratepayers pick up part of this bill, what is fair about that?

Ms. **Shanaman**. You are making the assumption the ratepayer will pick it up. It may be picked up by the shareholder. There is nothing in this bill which prevents the cost being assessed to the shareholder, either, by the regulatory commission, or by the utility itself. In fairness, yes, I have used that terminology because we have a nuclear industry, a commercial nuclear industry which Congress debated the fairness of whether it was established and whether Price-Anderson was established Congress determined in fairness if there was an accident there was an economic limit of liability which the one utlity who had that accident could afford to bear and thereafter the rest of the nuclear industry would have to pick up a fair share.

What we are asking for, and what we are seeking in Heinz-Bradley is substantially less than the limit set in Price-Anderson.

Senator **Burdick**. That is the sort of contribution. Is that in the law?

Ms. **Shanaman**. I am not sure I understand your qustion.

Senator **Burdick**. You said that it was understood that another company would have to pick up part of the losses, is that in the law?

Ms. **Shanaman**. In Price-Anderson this $560 million limit, and after which there is authority for assessment on the rest of the nuclear utility industry of up to $5 million.

Senator **Burdick**. It is going to be very difficult for me to explain to the power company out in my part of the country 1,000 miles away, why they should be involved in this at all.

Ms. **Curran**. I think we should look at other areas. We cannot look at electric power generation as anything that is isolated or stopped by State boundaries. I realize that the story we have to tell today is a difficult one and I can appreciate the independence that power companies and States certainly do feel and New Jersey is just as proud of its independence in many areas. But if we look at another area, the question of acid rains, will the utilities that are coal-fired be allowed to create problems in States that do not have coal-fired generation and do not enjoy the rates that are substantially lower? It is not an easy question to deal with. It is a question that does involve a national concern for the electric utility industry, whether this proposal or any other proposal.

As you know, we are all joined in a series of power pools so a problem in one area will not substantially affect the customers in that area. If neighboring utilities can be of help to provide assistance, they do so. It is a difficult thing to try to isolate the electric power industry and say that State boundary should be totally observed, although maybe we would like to get back to those days.

Senator **Stafford**. If the Senator would allow me, I think I have to make an observation here because I think there is no real parallel between the problem of acid rain and the problem at TMI, as it has been put.

There is a parallel and if we do something about acid rain we will be asking those who create the problem to pay the cost of doing something to cure it. And that really is the way this Senator at the moment looks at Three Mile Island. That is where the problem is, and those that create it are the ones, I am beginning to think, who ought to pay to clean it up.

Ms. **Shanaman**. If I might respond. TMI is recognition of the state of the industry at the time. Since that time, we have come further in terms of replacement power insurance, in terms of additional property plan insurance. So it is a nuclear industry which is evolving from that state-of-the-art at the time.

Senator **Stafford**. Did you have further questions, Senator Burdick? I didn't mean to interrupt.

Senator Bentsen.

I have asked Senator Mitchell to go over and vote and come back so we can try to keep the hearing going.

Ladies, we thank you very much. I think both of you represent your States very ably indeed.

The next panel will be Frank W. Griffith, chairman of the board and president, Iowa Public Service Co., and chairman, Edison Electric Institute; Larry Hobart, deputy executive director, American Public Power Association; and William Kuhns, chairman, General Public Utilities; accompanied by Bud Cherry, vice president, planning.

Gentlemen, we would ask as far as you can to summarize in 5 minutes, since there is another panel to follow.

Your full statements will be in the record.

Mr. Griffith, you are at bat.

STATEMENTS OF FRANK W. GRIFFITH, CHAIRMAN OF THE BOARD AND PRESIDENT, IOWA PUBLIC SERVICE CO., AND CHAIRMAN, EDISON ELECTRIC INSTITUTE; LARRY HOBART, DEPUTY EXECUTIVE DIRECTOR, AMERICAN PUBLIC POWER ASSOCIATION; AND WILLIAM KUHNS, CHAIRMAN, GENERAL PUBLIC UTILITIES; ACCOMPANIED BY BUD CHERRY, VICE PRESIDENT, PLANNING

Mr. **Griffith**. Mr. Chairman, thank you.

I appear before you today on behalf of the Edison Electric Institute to present our views on S. 1606, a bill introduced by Senators Heinz and Bradley.

The institute's analysis of the TMI cleanup issue has led the EEI board of directors to conclude that it is in the interest of electric utility systems, and particularly that of their customers, to contribute to the cleanup of TMI-2. First, we are convinced that electric utilities are paying a "risk premium" in financing needed power facilities because of the impasse surrounding the cleanup, and that an effective and equitable plan to deal with the TMI-2 cleanup will have a positive benefit on ratepayers of all utilities, most particularly those with nuclear power facilities.

Second, the cleanup process for TMI-2 should yield important research and develop many benefits which will help utilities mitigate nuclear power cost increases and improve plant safety and reliability.

The EEI board also concluded that other parties, including, most importantly, the ratepayers of the General Public Utilities system, the States of Pennsylvania and New Jersey, and the Federal Government, should participate financially in the cleanup.

In order that utilities and their regulators can assess the regulatory impact of any cleanup cost, such cost should be fixed as to both amount and duration of payment.

The Edison Electric Institute believes that S. 1606, which is before this committee, is a potential legislative vehicle to accomplish the objective of providing significant funds for the cleanup in a manner which takes into account the observations we have made.

The findings of this bill recognize that nuclear energy is one of the major energy sources available for electric energy production in the United States during the balance of the 20th century, and that failure to complete the timely cleanup of TMI-2 will adversely affect investor confidence and the securities of electric utilities, particularly those companies owning or operating nuclear geneating facilities.

S. 1606 also recognizes that Federal legislative action is necessary to assure the financial participation of electric utilities in that TMI-2 cleanup process; and the equitable apportionment of a portion of the uninsured cost of the cleanup among them.

The bill imposes a payment by certain utilities of a fixed fee over a fixed period of time.

S. 1606 would limit required participation to only certain utilities with nuclear power programs by prescribing a capacity charge on nuclear units in operation and also those under construction provided their owners have a nuclear unit in operation or these utilities own a portion of their nuclear unit in operation. While the industry supports this legislative initiative, it continues to believe that delays in the cleanup adversely affect all utilities. Consequently all utilities should participate.

With regard to Chairman Stafford's question about the rate treatment of the cleanup fee, we believe that any TMI cleanup legislation should remain silent on the manner in which a public utility commission or the Federal Energy Regulatory Commission should treat any assessment against any utility.

Senator **Bentsen** [presiding]. Could I interrupt? I am going to have to leave, too, in a minute, and with the official efficiency of the Senate, I have another committee I have to attend. I would like to ask one question I had in my mind in connection with this legislation. Suppose you have one of the utilities who decides not to pay, do you have an effective viable mechanism for the enforcement of payment?

Mr. **Griffith**. No, sir.

Senator **Bentsen**. What would you do?

Mr. **Griffith**. One solution, Senator Bentsen, might be to require payment as a condition upon which the operating license depended.

Senator **Bentsen**. You have to speak up.

Mr. **Griffith**. One solution might be to require payment to the TMI-2 cleanup process as a condition of continuance of their operating licenses for their existing nuclear units.

Senator **Bentsen**. There is no such provision now.

Mr. **Griffith**. No, sir.

Senator **Bentsen**. What happens to them if they do not pay under the present provision?

Mr. **Griffith**. Under the present provision, nothing, sir.

Senator **Bentsen**. Then why should they?

Mr. **Griffith**. Why should they? I believe, sir, that it is in the financial interest——

Senator **Bentsen**. I understand that. But I am saying, if you have no enforcement provision, then why would the management decide to——

Mr. **Griffith**. It is our opinion that the viability of the nuclear segment of our industry is so important to the entire industry that each and every company should find its way clear to support the cleanup efforts.

Senator **Bentsen**. I see now that the vote is half way through, if you will excuse me. We still stand in recess until the chairman returns.

[Brief recess.]

Senator **Mitchell** [presiding]. My apologies gentlemen, for myself and the other Senators. I am sure you understand that we will resume now at the point in which the proceedings were interrupted.

Mr. **Griffith**. Mr. Chairman, if I might clear up what perhaps was a misinterpretation on my part of Senator Bentsen's question. I was interpreting his question to be one of exis- ting Federal law. In the proposed legislation, S. 1606, there is an enforcement provision.

Senator **Mitchell**. I did not hear the question, but I am sure that will follow so it will be clear in the record what you are discussing.

Why don't you continue with your testimony.

Mr. **Griffith**. With regard to Chairman Stafford's question about the rate treatment of cleanup fee, we believe that any TMI cleanup legislation should remain silent on the manner in which a Public Utility Commission or the Federal Energy Regulatory Commission should treat any assessment against any utility. The bill, prior to markup, contained no provision similar to section 9. This left the matter where it belonged—to be settled between the company and the State and Federal Commissions.

We object to section 9 because the way it was added to the original bill may give rise to an inference that the funds be treated in a certain manner. The Institute strongly believes that funds for the cleanup of TMI are legitimate R. & D. expenses and should be so treated by regulatory agencies. In addition, as we have stated, utilities have been paying a "risk premium" in their financing becuase of the TMI cleanup impasse. Utility contributions to solve this problem will benefit the ratepayer by eliminating this premium and for this reason also, these small costs are legitimate operating expenses.

Obviously a successful financial plan to assure the cleanup of TMI-2 will, and should, require that GPU ratepayers make a substantial financial contribution. We understand that the Public Utility Commissions of Pennsylvania and New Jersey recognize this requirement and consequently, we do not believe at this time that the level of rates in the GPU service area should be a condition precedent to the utility participation program.

Such a condition could delay and perhaps, stall the initiation of one part of a broader "costsharing" program to provide for the timely availability of some funds for the cleanup of TMI-2. We would also note, as was previously indicated in our testimony, that electric utilities should contribute financially to the cleanup because it is in their interest and those of their customers that the cleanup is carried out in an expeditious manner. This objective can best be met by a simple mandate to the electric utility industry for its share rather than with a complex legislative procedure which depends upon complicated comparisons.

Lastly, the Institute has stated that the solution to the TMI-2 cleanup problem requires a "costsharing" approach. Funds should be sought from all entities that have a significant interest in nuclear power. Major nuclear reactor manufacturers certainly fit into this category. Their financial participation on some equitable basis would lessen the burden on others who should also participate. We would not, however, delay the enactment of S. 1606, which deals specifically with utility participation, while this funding source is being considered.

The accident at TMI-2 happened slightly over three years ago. While some progress in cleaning up the reacor has been made, it has been agonizingly slow. A financial plan to assure the eventual cleanup of the plant is still not in place. The bill before you, with the modification we have indicated as necessary, provides the foundation for a cooperative plan to assure adequate financial means for the cleanup. Others may wish to spend time assigning responsibility or blame, but we believe that after 3 years it is time for action. Should the Congress fail to develop an equitable means for utility participation, the cleanup problem will still be with us and, indeed, may call for greater Federal involvement than the Congress is currently contemplating.

Senator MITCHELL. Thank you.

We will hear from the next witness who would be Mr. Hobart.

STATEMENT OF LARRY HOBART

Mr. HOBART. I am with the American Public Power Association, and the Association opposes S. 1606 because we believe it is unnecessary, unfair, and undesirable.

The bill is unnecessary because with appropriate actions by the State public utility commissions of Pennsylvania and New Jersey, coupled with existing Federal subsidies, the three subsidies of the holding company General Public Utilities could collect in rates funds adequate to pay for the cleanup of TMI-2, without unreasonably burdening electric users in those service areas.

We believe that 1606 is unfair because it seeks to use a Federal tax on nuclear power to transfer money to GPU from the pocketbooks of consumers in other parts of the country served by utilities which have imposed rate increases of their own and had no causal connection with the accident at TMI-2, and because it also discriminates against consumers served by consumer-owned electric utilities.

We believe the legislation is undesirable because it would set a precedent for bailing out utilities who might run into financial problems by amending the law to add new troubled projects without examining the need to encourage responsibility and accountability.

Much of the support of this legislation coming from the Edison Electric Institute and others is premised on belief there exists a risk premium which all utilities are paying if they engage in the use of nuclear power. The analysis used in establishing the risk premium is a rather arcane science; even the experts have some differences as to its applicability to specific incidents.

Furthermore, there seems to be a great lack of believability about risk premium in the market where money is raised to finance projects.

I would like to read a couple of paragraphs from a recent publication issued by the Atomic Industrial Forum which recounts good news about financing for nuclear powerplants. It says.

> Significantly, nuclear utilities are on many buy lists as nuclear energy by itself is not widely considered a deterrent to investors. Nuclear units on line or close to completion are "no drawback to invest," says Doris Kelley, senior industry analyst at Merrill, Lynch. Operating nuclear plants are assets to companies' rate bases, she notes, and those near completion soon should be.
>
> Nuclear utilities, in fact, generally have improved their standing on Wall Street since the TMI accident. Following the TMI, Merrill Lynch reported that nuclear utilities stock relative to stocks of nonnuclear utilities fell about 4 or 5 percent. Today only a "modest differentiation" remains, says Kelley.
>
> As a rule, other investment criteria are more important than the nuclear/nonnuclear distinction. Among key factors are the regulatory environment and how much of a utility's budget is tied up in construction, which is very costly for utilities at today's high interest rates and unpredictable leadtimes.

And that is the end of the quote. The financial community, including Merrill Lynch, which is consistently bullish on nuclear power, doesn't support the idea that risk premium is imposing some kind of penalty on electric utilities which go into that field.

In answer to the three questions contained in the committee's letter inviting APPA to testify: If legislation is approved by this committee and goes to the floor, contrary to the position of our association, the question of whether ratepayers should be compelled to pay the expenses associated with a utility contribution to cleanup becomes a moot one as far as consumer-owned electric utilities are concerned.

Whereas a State commission might be able to make a distinction between a ratepayer and a shareholder for a private power company, in the case of consumer-owned systems they are one and the same, that is the user owns the system and there would be no opportunity to shift the burden in any way. In effect what the Congress would be doing by passing this legislation would be imposing a flat capacity tax on consumers of consumer-owned electric utilities. We find that inequitable. We are opposed to legislation outright but this particular fact poses a special problem for one segment of the industry, and we think it's unfair in its application.

The second question asked by the committee is should manufacturers, vendors, architects-engineers, be asked to pay if legislation is to be enacted. We think it would be perfectly equitable for them to pay, just as the bill proposes that electric utilities do. In that position we apparently are in support of the stance taken by the Electric Edison Institute. I think there is a lot of money on the table as far as manufacturers are concerned. A recent report of a meeting held to investigate nuclear commerce in the 1980's says, according to Stone & Webster vice president, that the nuclear business is going to run, for that firm and others, some $24 to $30 billion. If these companies are going to realize revenues of that kind during the decade, it would seem appropriate they kick in if others are going to be compelled to do so.

I hasten to say we don't like this bill in itself; we don't want to see it enacted.

The last question is are the rate burdens which are imposed on other consumers in other parts of the country pertinent to this legislation. And our answer is "Yes." As you pointed out yourself during our discussion today, Senator Mitchell, many ratepayers have been compelled to bear costs which are not fruitful in terms of provision of service, but which by the happenstance of their location in a particular service area are wrapped into their rates. We find examples of this all over the country.

In the Tennessee Valley, ratepayers there are going to be compelled to cover some $4 million in the cost of eight deferred or canceled nuclear powerplants. There is no appeal from that decision. The cost—four times the cost associated with the cleanup of TMI—is going to be borne by consumers.

I would like to point out that even Mr. Kuhns himself, in a speech he made last fall in Pennsylvania, suggested that the rate burden on consumers in the service area of his three subsidiaries was not as great, he said at that time, as had been anticipated, and a relatively minor rate increase in terms of rate increases these days would cover the cost of that cleanup.

We think that is fair, we think that is appropriate, and we don't think this legislation is necessary to get at the correct result.

Finally, Mr. Chairman, I think we would accept your point of view on this question, and that is that the best thing that could be done to wipe out whatever stigma was created by TMI and to get it cleaned up, would be for this committee to tell electric utilities and the public that it doesn't plan to report this legislation out favorably.

Senator MITCHELL. Thank you very much, Mr. Hobart.

The next witness is Mr. William Kuhns, chairman of General Public Utilities, and you are accompanied by Mr. Cherry. Welcome, gentlemen, and we are happy to receive your testimony.

STATEMENT OF WILLIAM G. KUHNS

Mr. KUHNS. Thank you, Mr. Chairman, I am pleased to appear before the committee to discuss TMI cleanup funding.

I ask that my prepared testimony in answer to the three questions posed in your letter of April 22 be included in the hearing record.

Senator MITCHELL. That will be done as will the statements in full of all of the other witnesses today.

Mr. KUHNS. Thank you, sir.

There certainly is controversy here today. I think there should be no controversy and I sense there isn't any controversy over the judgment that TMI-2 should be cleaned up as soon as possible. While the unit continues to be held in a safe and stable condition; 3 years after the accident, the ingredients of a very serious situation still exist at Three Mile Island. The need to accelerate the cleanup was underscored by the Chairman of the Nuclear Regulatory Commission [NRC] Nunzio J. Palladino in a letter dated March 22, 1982, to Senator Alan K. Simpson, chairman of the Subcommittee on Nuclear Regulation. Quoting from that letter:

> My fellow commissioners and I want to emphasize our belief that the cleanup of TMI-2 must be accelerated. The potential for slow degradation of containment integrity and equipment capability plus the increasing concern for an unexpected release of radioactive material argue that, as a last resort, it is time for the Federal Government to take a more aggressive role . . . our purpose in pointing this out to you is to ask that you support . . . establishing some form of funding that will guarantee a rapid cleanup.

Mr. Chairman, we are here for that very reason, to ask this committee to support a funding program that will guarantee an expeditious cleanup program. In this regard, we strongly support S. 1606 as amended by the Heinz-Bradley substitute and reported out of the Senate Committee on Energy and Natural Resources.

S. 1606 assures the provision of broad-based utility industry participation in the shared-cost funding of the TMI cleanup. The other participants in this plan are the GPU ratepayers—the major share—the States of New Jersey and Pennsylvania, and the Federal Government—through U.S. DOE research and development programs.

The shared-cost approach to clean up funding is the only plan for cleanup funding currently in existence which has received enough support to be viable. It represents a fragile agreement which is the product of over 18 months' efforts of the major parties of interest to the cleanup.

If the participation of the nuclear utility industry cannot be assured through the enactment of legislation such as S. 1606, the carefully nurtured cost-sharing agreements will begin to unravel and we will be left with the impasse on cleanup funding that existed 1½ years ago. We will be back to square 1 and the plant will sit, a potential threat to the health and safety of the residents of central Pennsylvania.

The breakdown of the current consensus could lead to a much more prominent Federal role in the cleanup of TMI. We believe that the shared-cost plan represents the only approach to funding that can be implemented in a noncrisis, nonconfrontational environment.

The shared funding approach is based upon spreading the cost of the cleanup over all of the parties of interest, so that no one group is inordinately burdened.

We believe that the $170 to $175 million in cleanup funding that would be provided if S. 1606 is enacted is a reasonably equitable share for the utility industry.

As a result of the impasse surrounding TMI-2 cleanup funding electric utilities across the country are paying a risk premium in their current cost of capital.

The elimination of the funding impasse will reduce the current and future cost of capital to the industry.

Many have suggested that because GPU rates are not now the highest in the country, that the GPU customers should pay a greater share of the cost of cleanup. I would like to briefly comment on the impact of the accident on our customers and the comparability of their rates to other utilities in the region. Since the accident GPU rates have increased substantially. Rates for our Jersey Central Power & Light Operating Co. have increased 70 percent since the accident.

Senator MITCHELL. May I interrupt? Can you estimate or do you know what percentage of that rate increase is attributable to the TMI incident and what is not?

Ms. Curran made the statement, and I asked if it was attributable and she said not, and my assumption is that some portion is and some portions are not.

Mr. KUHNS. None of that includes cleanup. That is all largely for purchase power.

Jersey Central Power & Light rates for a small residential user are now 9.6 cents per kilowatthour. A pending rate filing would increase these rates to 11.8 cents per kilowatthour. Metropolitan Edison Co. rates have increased 90 percent in the same period. Metropolitan Edison rates for small residential users are now 8.6 cents per kilowatt-hour. Jersey Central Power & Light Co. residential customers pay an average annual utility bill of $683, nearly the highest in the Nation.

Residential customers of our Metropolitan Edison subsidiary pay an average annual bill of $527, among the highest in Pennsylvania.

While one could argue that another 5 to 10 percent increase in rates could be managed by our customers there would appear to be little equity in such a proposal. GPU ratepayers are currently paying amortization of the TMI-2 investment as well as significant replacement power costs. Both of our State regulatory commissions have indicated that they believe it to be inappropriate for GPU customers to pay the entire cost of the cleanup in addition to plant amortization and the cost of replacement power.

The Pennsylvania Public Utility Commission has taken a major step in allowing a portion of the cleanup costs to be included in rates upon the restart of TMI-1. This decision was taken in anticipation of progress in securing the participation of the utility industry in the shared-cost plan. We are hopeful that the New Jersey Board of Public Utilities will take a constructive approach in the current proceedings.

In summary, Mr. Chairman, there has been progress in the development of a funding program for TMI. There have been positive actions by most of the major participants. We believe that the utility industry participation in the shared-cost plan assured by S. 1606 as amended is a mandatory ingredient in the completion of funding program for the cleanup of TMI-2.

We strongly support this legislation, we are encouraged by the recent action of the Senate Energy Committee and look forward to the day when we can say the cleanup is complete.

I would add, Mr. Chairman, that the health safety issue is real. It has been referred to a number of times today. We are running out of insurance at GPU. I will have the responsibility myself to make a decision at some point what we do with this cleanup effort and, depending on what happens, I will have to make the decision to shut down that cleanup effort. We will work, we have worked to maintain the integrity of the facility and to protect the health and safety. That will always be our No. 1 priority.

I cannot predict under whatever circumstances may develop that we could continue to succeed in that effort. That is not said as a threat, Mr. Chairman. We are going to do absolutely everything we can to maintain health and safety but we are running out of money. It isn't there, and something like this must be developed that puts in place a funding program that we can rely on, that will permit us to begin the task, the completion of which is essential to removing that core and the commencement of which cannot occur without an assured ability to complete it. We have to have an assured way to get at this thing and not take it dollar by dollar.

One other point, and then I will stop. You identified earlier, I think, a very important point, that Congress should be concerned about, and that is the precedential quality of what we are seeking to do here. I think that Congress should be satisfied that this isn't going to be where we all come as things happen and simply ask for congressional support. I think you have to look at the response of this industry of ours to the accident, an enormous accident, which impacted the technology across the board, regulation, design, construction, operator training, everything. The changes that have been made, I think are a tribute to the depth, the breadth, the scope of this accident. This wasn't the case of one company having an accident, we had the industry's accident, if you will. And if it had been insured, as it should have been, which is one of the lessons learned, if the $800 million or $1 billion of insurance had been in place in January 1979, we would not be here today and those premiums would have been paid by the nuclear utility industry.

In a sense, we are asking for recognition of an insurance approach. Then one says: Why retroactive, you don't insure things retroactively. Two things, research and development value to this country and this world, and the self-interest involved in cleaning up this mess, relieving the industry of the risk premium and maintaining this very important technology recognized by the Senators earlier as a vital energy option for this country.

The industry has responded, we have the insurance up to about $800 million. We hope to have it to a billion in a few months.

One of the concerns of Congress could well be: Is that high enough? But once it is, I think we have relieved your concern, which I think is a very important one, that this industry won't be back here for more of this kind of action. Thank you.

Senator MITCHELL. Thank you, Mr. Kuhns, for a very persuasive statement. I do want to make clear that I can only speak for myself, but I expect that the other members that oppose the legislation feel the same way.

I don't want to appear in any way self righteous about this. I have the highest respect for Senators Bradley, Heinz, and Specter and I think they have vigorously pursued the interest of their States and the Nation, and those of us who have nuclear powerplants in our States can well recognize that there, by the grace of God, go we. So it is a very difficult situation.

I want to ask you a question, because we had a lot of testimony, not all of it consistent, I am not sure it can be described as conflicting but it is not consistent in terms of what the effect would be upon your ratepayers if this legislation were not enacted. I am going to take the liberty of quoting from a statement by Mr. Kevin Boland, who is with the General Accounting Office and who will testify right after you. I hope he doesn't mind too much.

So with Mr. Boland's permission, I am going to read a paragraph from his statement and ask you to comment on it.

He said that:

> If the industry cannot keep its commitment, that is, to provide the funds for the cleanup, the only viable recourse is to obtain it from system ratepaper residents. If this increase were to be approved by the Pennsylvania PUC, and the New Jersey Board, it would likely increase rates by the following amounts, and then he has a table following which he says: "At the current rate levels, this additional cost would increase rates for MetEd by 2.3 percent, Penelec by 0.9 percent, and Jersey Central by 0.6 percent, who are residential consumers using 500 kilowatt-hours per month.

Mr. KUHNS. Could I have those percentages?

Senator MITCHELL. Yes; I will read it as he says it and you have to listen. He says that the current rate levels of this additional cost will increases rates to Met Ed, Penelec, and J.C.P. & L. residential consumers using 500 kilowatt hours per month by 2.3, 0.9 for Penelec, and 0.6 percent for Jersey Central respectively.

I would like to ask you, Mr. Kuhns or Mr. Cherry, that does not seem like an unreasonable burden.

Mr. KUHNS. My first reaction to the numbers, they are wild, they are way too low. I am being informed that this is talking about the $170 million that is the subject of this bill?

Senator MITCHELL. That is right.

Mr. KUHNS. It is taking a piece of the $30 million a year roughly and saying what would that do and on that basis I would accept those percentages. But that is cutting the thing up into little pieces and saying you can swallow that, can't you and then you can swallow all that and then you choke.

Senator MITCHELL. I understand but that is the subject of this legislation. We are talking about $170 million.

Mr. KUHNS. I don't think so. Respectfully I suggest the subject of this legislation is an integrated funding program in which this bill addresses a specific piece but not out of the context of the total program and I think that is important. We are looking at $760 million. This is a piece of that. So to segment it and nibble at it that way, I respectfully suggest, it is a little unfair.

If you look at the overall, I thought that is what you were getting at, if you lay the full cleanup cost on our companies, my statement that you referred to earlier, sir, was correct, that the increases would range from 5 to 16 percent throughout the system. And that would be on top of these rates that have already reflected some very important increases.

Senator MITCHELL. Mr. Kuhns, how long have you been in the nuclear power industry?

Mr. KUHNS. Nuclear power industry?

Senator MITCHELL. How long have you been involved?

Mr. KUHNS. Me personally or the company?

Senator MITCHELL. Yourself?

Mr. KUHNS. I go back with GPU to 1955. We started after that with a Saxton experimental plant in western Pennsylvania where we hooked on a nuclear reactor to a conventional turbine.

Senator MITCHELL. Over 20 years?

Mr. KUHNS. Then we had the first light water reactor commercial plant, Oyster Creek, heralded by President Johnson as the first commerical demonstration of nuclear power. That went into service in 1969 and then we built TMI-1 which went into service in September of 1974 and ran beautifully until the accident. And then we built unit 2 which went commercial in 1978.

Senator MITCHELL. How about you, Mr. Griffith, just how many years?

Mr. GRIFFITH. In my own companies, we have no nuclear power.

Senator MITCHELL. Were you both present when Ms. Curran testified this morning, the New Jersey commissioner?

Mr. KUHNS. Yes, sir.

Senator MITCHELL. And Ms. Shanaman. Ms. Shanaman made an interesting argument. In 1973 Senator Schweiker proposed legislation to permit States to increase insurance coverage for utility plants and her argument was since that bill was defeated that represented some form of commitment by the Senate to deal with the problem, if the problem which that bill sought to address arose.

One may agree or disagree with the logic of that. What was the position of the Edison Electric Institute with respect to that bill? Do you know, Mr. Griffith?

Mr. GRIFFITH. I do not know but I presume we could find out.

Senator MITCHELL. Fine. Do you know, Mr. Kuhns?

Mr. KUHNS. No, sir, I do not.

Senator MITCHELL. Did you take a position on that bill?

Mr. KUHNS. I don't recall. We will be happy to check that. The industry would have a complete file on it.

Senator MITCHELL. I thank you gentlemen very much, your testimony will be received. On behalf of the other Senators, let me assure you, they have a keen interest in this. Senator Stafford has an amendment on the floor of the Senate with which he must now deal. That is the reason he is not back. He will be represented by staff and I am certain he will review the testimony very carefully.

I thank you all and we go now to the third panel.

Mr. Denton, can we begin with you?

STATEMENTS OF HAROLD DENTON, DIRECTOR, OFFICE OF NUCLEAR REACTOR REGULATIONS, NUCLEAR REGULATORY COMMISSION; ACCOMPANIED BY, BERNARD J. SNYDER, PROGRAM DIRECTOR, THREE MILE ISLAND PROGRAM OFFICE; DR. THOMAS A. DILLON, DEPUTY ASSISTANT SECRETARY, OFFICE OF NUCLEAR ENERGY, DEPARTMENT OF ENERGY, ACCOMPANIED BY: HERBERT FEINROTH, ACTING DEPUTY DIRECTOR, OFFICE OF COORDINATION AND SPECIAL PRODUCTS; KEVIN BOLAND, SENIOR ASSOCIATE DIRECTOR, ENERGY AND MINERAL DIVISION, GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY, CLIFF GARDNER, AUDIT MANAGER

Mr. DENTON. Mr. Chairman, my colleagues and I are pleased to testify today on the status of the cleanup of Three Mile Island Unit 2 and the implications that a prolonged cleanup might have on the health and safety of the general public and the TMI-2 work force. Before I introduce Dr. Bernard Snyder who will present the more detailed portions of our testimony today, I would like to make a few preliminary remarks.

Although it hardly seems possible, more than 3 years have passed since I was sent to Three Mile Island during the accident in March 1979. One of my most vivid recollections of the period during the accident and the weeks shortly thereafter is of the cooperative—almost infectious spirit—of the many organizations, individuals, and governments who worked together to bring the situation under control. It was a monumental effort carried out effectively and efficiently with one ultimate goal—to eliminate the danger to the public and the environment.

In the midst of all this national attention and selfless cooperation, I could hardly have guessed that 3 years later I would be sitting here before a Senate subcommittee testifying about the continuing threat posed by conditions at TMI-2. While the cleanup is progressing, its pace is painfully slow. I find the sharp contrast between the active progress early on and the current situation very discouraging.

Accordingly I have been emphasizing to all who can play a role in the cleanup that the potential for harm to both the public and TMI workers still exists. Although we believe that the likelihood of an accident involving a release of significant amounts of the radioactive materials currently contained at TMI-2 is small at present, the possibility will certainly increase as the cleanup is further delayed. I am committed, as I know the commission is, to seeing that the entire cleanup is expedited in order to eliminate all potential for mishaps.

In order to move ahead as swiftly as safety will permit, the fundamental issue of financial assurance will need to be resolved. I agree with the assessment expressed in Chairman Palladino's recent letter to the Congress that a "greater Federal participation in assuring financial viability is a prerequisite to an acceptably rapid (cleanup) program."

Our purpose in requesting Federal support for some form of cleanup funding is to do all we can to bring about the safe and expeditious completion of all TMI-2 cleanup activities. TMI is not yet behind us.

I would now like to have Dr. Snyder, Director of the Three Mile Island Program Office, present the more detailed NRC testimony.

STATEMENT OF BERNARD J. SNYDER

Mr. **Snyder**. Senator, I am pleased to be here today to present the staff testimony on the status of the cleanup of TMI-2 and the implications that a prolonged cleanup might have on the health and safety of the work force, as well as the general public.

Senator **Mitchell**. Will you be in a position to summarize your statement?

Mr. **Snyder**. Yes, sir.

As Chairman Palladino indicated, our responsibility is the protection of the health and safety of the public. We are concerned that if the pace of the cleanup is not accelerated, the capacity for continued maintenance of the health and safety will become more uncertain. We know the reactor core suffered significant damage during the accident 3 years ago and it is probable that amall amounts of particles of fuel, along with control rod and core materials were distributed throughout the reactor system.

No one knows the exact conditions within the reactor vessel and it is important to note that the plant has been in a condition for which it was not designed. This situation causes us increasing concern.

A great deal of difficult work remains to be done.

The reactor coolant system contains 90,000 gallons of highly contaminated water which will require processing. Containers of highly radioactive resin and zeolites remain onsite until steps are taken to make these safe for shipment, considering the hydrogen being generated. The balance of the most contaminated surfaces in some of the buildings remain to be cleaned up. The reactor building is yet to undergo detailed decontamination.

The reduced radiation levels in the reactor building we believe is a prerequisite for the most difficult task, the defueling of the damaged core.

As you are aware, the schedule for the completion of these and other vital cleanup activities is essentially indeterminate because of uncertainties regarding the availability of funds. Only some limited progress, and we see no end in sight, we are extremely concerned about the future status of the plant and the licensee's capability for maintaining the facility in a stable condition to adequately protect the public over the long term.

Further delays, in our opinion, can no longer be tolerated.

The risks associated with indefinite delays are real. Currently the plant is safe but we can give no assurances that over the long term as equipment deteriorates that the probability of incidents might not increase.

There have been several incidents in which leakages have occurred and my detailed testimony cites these.

Inevitably, as the result of restricted access to areas of the facility in which high radiation levels persist, maintenance will be limited and equipment will continue to deteriorate. Similar problems can be anticipated to occur in the future. The frequency and risks from these events, although small now, are likely to increase as the cleanup is prolonged.

There is also an exceedinlgy small, but not zero, probability for a criticality accident in the reactor vessel. There is even some small potential for a criticality event outside of the core because of the unknown quantity of fuel materials which were transported outside the reacor vessel.

The incidents to date have been of controllable nature, it is not inconceivable that a future leakage incident could result in an unisolable leakage from the reactor coolant system. Considering the plant condition, such leakage cannot be ruled out, and this possibility is of serious concern to us.

If the leakage rate from failures in the reactor coolant system boundary were high enough, use of the safety systems and equipment would be required. Much of this equipment has not been used since before this accident or previously subjected to contaminated water. This could result in causing the plant to become even more contaminated than it is now and would clearly set the cleanup back even further.

Experience has shown that delays in cleanup cause radioactive comtamination to be more difficult to achieve from surfaces and equipment. Radioactivity tends to "soak into" concrete surfaces, and rusting of metallic surfaces compunds the problem. For this reason, the cleanup will be more costly in terms of worker radiation exposure and public risk as further delays result.

The mechanical deterioration of components and systems over time may reduce the plant's ability to respond to natural phenomena. For example, severe weather or other adverse events, for example, fires, thereby posing potential threat to continued successful containment of TMI-2 contamination and stored waste. Although the likelihood of this happening is small, the possibility does exist. Only the timely completion of all cleanup and radioactive waste disposal activities at the site eliminate the associated risks to the workers and the possibility of inadvertent release.

You have to keep inmind the damaged fuel and other materials at site will remain radioactive for many hundreds of years. The threat remains until the facilities are decontaminated, the fuel is removed from the site and all radioactive wastes are disposed of safely.

In addition to the increased possibility of releases as the cleanup is further delayed, we are concerned about unnecessary radiation exposures to the plant workers. Exposure to the workers will be kept as low as reasonably achievable. As the cleanup is stretched over an unnecessarily long time due to lack of adequate funds, workers will be exposed to radiation and will accumulate increased exposure while performing maintenance activities. It is important to recognize these activities by workers in radiation zones will be required to maintain the status quo, even though little or no progress is made toward cleanup.

The concern, we believe, is more than a local one. The issue of expediting to a conclusion is of national importance and demands the attention of the industry, the administration, and the Congress and Government agencies. Anything else will perpetuate an intolerable siutation at TMI.

Senator MITCHELL. Let me interrupt and ask both you and Mr. Denton a question.

It is true that there is no physical impediment to proceeding with the cleanup. We are addressing here the financing of the cleanup?

Mr. DENTON. That is correct, Senator. The main physical impediment at the moment in the way I would interpret the word, the radiation levels inside the containment, they remain 10 to 100 times greater than they should be to allow normal access for equipment maintenance and one of the parts of the cleanup program is decontainment of the contaminant so unrestricted access would be provided.

Senator MITCHELL. We are talking about the need to supply money for the cleanup and your support for this bill is apparently premised on the idea that there is no other source. If the States or the ratepayers or anybody else were able to come up with the money, there would be no impediment to the cleanup; isn't that correct?

Mr. DENTON. That is correct. The commission has not supported any particular bill and we just encourage all forms of support that would expedite the cleanup.

Senator MITCHELL. So, I think it is important to distinguish between any impediment to a cleanup and the financing. I recognize that it lends support in one case to say there is no other way to do it. But there are many alternative ways in which the money could be made available and all we are talking about here is whether this one is the best one. Is that a fair statement?

Mr. DENTON. Yes, sir.

Senator MITCHELL. There are other ways.

Mr. DENTON. Having watched this over the past several years, we have come to the conclusion without some sort of Federal involvement or direction the cleanup is not going to go ahead.

Senator MITCHELL. Is that because the prospect of Federal assistance continues to exist and so long as that prospect exists, no other alternative will be meaningfully explored?

Why don't we go ahead with Dr. Dillon.

STATEMENT OF THOMAS A. DILLON

Mr. DILLON. I have a prepared statement I would like to submit for the record, and try to summarize some of the key issues.

In my testimony today I will cover three main subjects. First, the Department's position with respect to S. 1606. Second, the basic policy of the administration with regard to the cleanup of TMI and the appropriate Federal role in the cleanup. And finally progress made in the cleanup since we testified before a joint session before this committee and the Senate Energy Committee last October.

The Department of Energy supports Senate bill 1606, as amended by the Senate Energy Committee, the objective of which is to assure an early completion of the cleanup of TMI unit 2. Several of the features in the initial bill which we commented on last October 20 as being of concern have been eliminated from the current version. The bill is now limited to establishment of a fund for the utility share of TMI cleanup costs. The fund would be contributed to by the various U.S. utilities owning nuclear electric generating stations.

The Federal Government's role in this program would be limited to one of assuring that the funds contributed are appropriately dispersed to legitimate cleanup activities.

This role is assigned by the proposed legislation to the Secretary of Energy, and, if the bill is enacted into law, we believe that the Department can carry out this activity effectively.

Now let me spend a moment to reiterate the administration's overall policy with respect to the cleanup. As authorized by Congress, the Department is conducting a research and development program at TMI to assure that the data obtained during the cleanup is applied to the benefit of the entire nuclear community.

In addition, because of the Department's unique experience in handling radioactive wastes, the Department has agreed to and has signed a memorandum of understanding with the Nuclear Regulatory Commission to assist in the removal of all abnormal wastes from Three Mile Island. To the extent that the disposal of this waste is not part of our R. & D. program, we will be reimbursed by the owners for the costs associated with this waste activity. A copy of the latest revision to this memorandum of understanding is being provided for the record. The President has committed a total of $123 million to this DOE R. & D. program and through this current fiscal year approximately $42 million has been and is being spent. We believe the Federal law and the program meets the spirit of the Thornburgh plan.

The Department has recently signed an agreement in principle with the owners of TMI to acquire the damaged core.

The costs of shipping and disposing of the damaged core which are not necessary for our research and development program also will be reimbursed by the owners.

With this latest agreement, we believe the path has been cleared for the removal of all radioactive wastes from TMI.

I would like to briefly highlight some of the progress made during the last 6 months, since Secretary Edwards testified before this committee.

First, 600,000 gallons of contaminated water, including 300,000 curies of radioactive cesium and strontium has been removed from the reactor.

Second, all of the cesium and strontium in the basement water has been concentrated in about 80 cubic feet of zeolite sand enclosed in 10 stainless steel liners, each about the size of a large garbage can. Lessons learned from this R. & D. activity will pave the way for cleanup of any future nuclear plant contamination incidents.

The technique for doing this was developed jointly by GPU and DOE laboratory experts. (The cans are known as submerged dimineralizer system liners or SDS liners.)

Third, the Department of Energy has demonstrated vitrification of a sample SDS liner (nonradioactive), and we expect to ship the first radioactive SDS liner from TMI to our Hanford, Wash., laboratory for a hot vitrification demonstration by this summer.

The resultant glass log is extremely stable and suitable for long-term storage and disposal. Thus, a safe method will have been demonstrated for treating and disposing of radioactive fission products from such incidents.

Fourth, the radioactive contamination from the cleanup of water in the TMI auxiliary building has been collected in 50 carbon steel cans containing organic resin known as EPICOR liners. The Department has already shipped one of these liners to Ohio and then to Idaho for research and development, and has developed new techniques to deal with potentially explosive gases that could be generated in these liners. Those techniques are expected to be of value to the entire nuclear industry and NRC for future shipments to the Idaho National Engineering Laboratory for research during the next 9 to 12 months.

Non-R. & D. costs associated with shipment and disposal will be borne by the owners.

Fifth, just last month the owners completed a containment decontamination experiment which was partially sponsored by the Department, and which led to very substantial reductions in radioactivity levels in certain areas within the containment. For example, median gamma radiation levels at the 305-foot elevation were reduced from 200 mr/hr to 150 mr/hr; beta radiation levels in the same areas were reduced by a factor of 6; and surface contamination levels were reduced by a factor of 16. This has made working conditions within the containment significantly easier and less cumbersome.

In the past, the recovery contractor has estimated that 100 hours of preparation are needed for each hour of work within containment.

The reduction in radiation levels should lead to a significant reduction in this ratio; perhaps by as much as a factor of 10, and, thereby, lead to a major reduction in cost and time required to complete the TMI-2 cleanup as compared to previous estimates.

Sixth, a technical assistance and advisory group [TAAG] has been established as a follow-on to the prior technical assistance group formed at the time of the accident. Under the joint sponsorship of DOE, GPU, and NRC, this group will provide expertise and new insight into safer and more efficient methods of conducting the defueling and cleanup. This group includes some of the most knowledgeable and experienced professionals in the world and has already come up with some ideas and suggestions that have led to major progress in the defueling.

Seventh, partly as a result of the TAAG efforts and the efforts of DOE/EG&G R. & D. team to develop a specialized 1¼-inch underwater TV camera, we have obtained for the first time a TV film of the fuel elements within the TMI-1 reactor core by inserting this camera through a 36-foot-long opening from the reactor vessel head. As a result of the excellent clarity in these pictures, the owner and DOE are arranging for the first examination of the damaged TMI-2 core this July.

I expect that this examination will provide vital information to accelerate the cleanup, defueling, and acquisition of generic safety data of value to the entire nuclear community.

And, finally, I would like to spend a few minutes on future plans. I am personally very optimistic that our rate of progress will increase in the coming months and years. The core examination this summer will be very important in that regard. Progress to date has been less difficult than originally anticipated.

Up until last year, the owners' schedule for conducting the first examination of the damaged core was sometime in 1983; they now expect to do this in July of this year. With concentrated management, effective cost control, continued cooperation among the various participants, and timely availability of funds, the cleanup job can be completed within the $760 million estimate.

We will continue to search for ways to improve the schedule and reduce the cost.

That completes my testimony. We would be glad to answer questions at this time.

Senator MITCHELL. I have no questions, but I must say I find it extraordinary that an administration which engages so regularly in enterprise of rhetoric, of free enterprise, should be in here—both—supporting this bill.

I suppose we are all inconsistent to some degree or other, but it is truly incredible. Particularly just last week the President stated on national television how it is not the policy of this administration to bail anybody out and everybody's got to stand on their own feet, and so on, which we have heard so much, we all know it by heart.

Mr. Boland, I apologize for parroting some of your statement earlier and I now will be pleased to receive the summary of your statement.

STATEMENT OF F. KEVIN BOLAND

Mr. BOLAND. I actually appreciated your earlier introdution.

The basis for my comments today stem from the reports and followup work we have completed over the last 2 years concerning the serious financial and operational concerns presented by the TMI accident.

We believe the initial steps taken by the Federal Government, the State of Pennsylvania, and the electric utility industry were positive signs of a willingness by the concerned parties to move forward at TMI.

Some progress has been made toward cleaning up TMI-2, but funding constraints have slowed the pace for 1982 and this will probably continue to be the case unless additional funding is made available to GPU.

The financial status for Met. Ed. and Penelec into 1982 and even 1983 has improved as a result of the favorable Pennsylvania Commission rate order in early January.

The increased revenue collections will allow Met. Ed. to repay borrowings and also allow it to build up a reserve to meet its $50 million long-term bond requirement commitment. Met. Ed. will not be able to meet both, commitments from internally-generated funds but will probably need about $25 to $30 million in short-term borriwings to meet State tax obligations.

Penelec, on the other hand, expects to meet all of its financial commitment from internal funds.

The financial commitment of Jersey Central is unclear at this time. Any improvement depends on a favorable decision by New Jersey Board of Public Utilities. As you heard this morning, that decision is pending but is expected to be made within the next month.

I should point out that Jersey Central is faced with several major financial hurdles over the next 18 to 24 months, including bond redemption, State tax payments and capital costs for its Oyster Creek nuclear powerplant.

The GPU corporation's outstanding debt as of April 15, 1982, stands at about $65 million, and of all system indebtedness, is the least likely to be repaid by December 31 as required. The debt can only be repaid as the three companies pay dividends into the corporation. However, only Penelec is expected to pay any dividends in 1982. Consequently, GPU will likely still owe about $46 million at year end. This will require negotiating a new credit agreement with the banks for 1983 because of the present agreement requires that the outstanding debt be liquidated by December 31, 1982. Failure to obtain this continued financing could pose difficulties for both the corporation and the operating companies.

The potential for a GPU bankruptcy at this time appears to be unlikely. It cannot be totally discounted, however, given the interrelated financial ties that bind the GPU system and the System's current narrow margin of financial solvency.

In our opinion, a bankruptcy will not resolve any of GPU's financial problems and customers will likely end up paying higher rates.

The TMI-2 cleanup cost and completion schedule has slipped steadily since the initial estimate was developed in mid-1979. The expected completion cleanup date, for example, has slipped from 1982 to 1987. Costs have escalated from $133 million, expressed in 1981 dollars, to over $1 billion, adjusted for inflation.

GPU is currently using about $20 to $25 million of its own funds, plus $30 to $40 million of insurance proceeds to maintain TMI-2 in a safe condition and to conduct some cleanup work.

If ratepayer contributions or funds or other sources are not forthcoming, GPU expects a further reduction in cleanup activities during 1973.

If the utility industry does not keep its commitment to provide $192 million for cleanup costs, and the Pennsylvania and New Jersey regulatory agences allow the industry's share to be passed to GPU customers, the additional cost would increase current rate levels by 0.2 cents per kwh for Met. Ed. and 0.97 cents per kwh for Penelec and Jersey Central. At the current rate levels, this additional cost would increase rates for Met. Ed., Penelec, and Jersey Central residential consumers using 500 kilowatts per month by 2.3, 0.9, and 0.6 percent, respectively.

The proposed amendment to S. 1606 provides a mechanism by which the electric utility industry could implement its commitment to share in the TMI cleanup cost. We support this cost-sharing concept. It is one we have supported in past reports and testimony. The amendment limits the sharing of the industry contribution to those utilities with nuclear powerplants operating licenses. This is a substantive change from some of the previous consideration that would have assessed most electric utilities a share of the costs.

While there are reasonable arguments on both sides of the issue, the answer is judgmental and, in our opinion, best left to the discretion of the Congress.

Senator MITCHELL. Thank you very much, Mr. Boland. Thank you all for your testimony here today, and I apologize for the long delay, but you have been around here long enough to know that seems to be inevitable.

We will now hear from the final witness, Michael E. Faden, legislative counsel for the Union of Concerned Scientists.

Welcome, Mr. Faden, and we will be pleased to receive your testimony.

STATEMENT OF MICHAEL E. FADEN, LEGISLATIVE COUNSEL, UNION OF CONCERNED SCIENTISTS; ACCOMPANIED BY KEIKI KEHOE, ENVIRONMENTAL POLICY CENTER; AND RICHARD J. KINANE, ENVIRONMENTAL ACTION

Mr. FADEN. Thank you.

With me is Richard Kinane, who is nuclear issues coordinator for Environmental Action. And on my right is Ms. Keiki Kehoe, who is with the Environmental Policy Center.

Our statement is subscribed to not only by the three groups represented here, but by four other national safe energy groups, the Friends of the Earth, the Natural Resources Defense Council, the Nuclear Information and Resource Service, and the Sierra Club.

We thank you for the opportunity to present this testimony and thank you also for your continued attention to this issue and for the thoughtful questions you have asked throughout the day.

We are opposed to this bill and we oppose it largely for the reasons you articulated earlier. We believe the cleanup will go forward and the financing will be more nearly assured when the parties involved stop looking for Federal legislation, stop looking for some either complete or partial solution to be imposed from Washington and instead go back to the resources they have and develop them fully.

We believe the legislation before you is most properly defined as economic regulation legislation. We do not see it as a health and safety protection bill. Its only purpose is to transfer a small portion—20 percent—of the cost of this cleanup from one set of ratepayers to another.

If there were a health and safety emergency, Congress would be called upon to fund all of the cleanup, not merely a small part of it.

We believe that no proponent of this legislation can claim that it is necessary for the entire package to go forward, because the entire cost-sharing package is in some trouble at this point.

As you know, the Federal share in Governor Thornburgh's original plan was set at $190 million. The commitment made by the administration last fall was $123 million. Earlier this year GAO told the Congress that commitment will actually result in an offset of somewhere around $60 million in cleanup cost. Quite similarly, the GPU commitment envisioned in Governor Thornburgh's plan, as you have mentioned earlier, depends on the restart of TMI–1. We do not believe that unit will be restarted at least in this calendar year, and given the recent vote of the residents of the surrounding counties and given the long history of safety issues as yet unresolved with respect to that unit, we are not sure if ever it will restart. We do not believe that funding for the cleanup should be in any way dependent on the restart of the other unit.

You have already quoted GAO testimony today that a rate increase of respectively 2.3 percent for Met. Ed., 0.9 percent for Penelec and 0.6 percent for Jersey Central will offset the amount of cleanup contribution that is called for in this bill.

We disagree most strongly with the argument put forth by certain of the proponents of the bill that utilities around the country are paying a higher risk premium on their bond and equity financing that will be relieved somehow by the passage of this legislation. To the extent that risk premium derives at all from the TMI situation rather than from the other many troubles that the electric industry has faced during the past few years, the risk premium derives from the fact of the accident itself.

The accident demonstrated to the industry, to the world that any nuclear utility can lose its entire assets at any time. We do not believe that the passage of this bill can erase that fact from history.

We believe that if the risk premium argument has any validity at all, it is an argument for the utilities to contribute voluntarily to this cleanup, it is not an argument for Federal legislative compulsion. If the break-even point is four basis points, in other words, if the contribution by the utilities in the amount called for in this bill can be offset by a mere decline of one 400th of 1 percent of their long-term funding interest rate, that to us is virtually conclusive evidence of the wisdom of their voluntary contribution, and we are dismayed so far at the performance of the members of Edison Electric Institute who after making a great show of their intent to fund this cleanup voluntarily last fall have not with the exception of one utility taken any steps to come through with that commitment: Instead they have come up here looking for mandatory legislation.

We believe that the purpose of that mandatory legislation is not solely to make sure that all utilities bear their fair share of this cleanup contribution. We believe the purpose is more strongly to make sure that that contribution in each State can be passed through to the utilities' ratepayers' contrary to what you have heard earlier.

In our view the bill is most definitely not neutral on the issue of ratepayer contribution. Section 9 of the bill is very vague and leaves little clue to its legislative intent. In our view it does not leave full discretion to the State utility commission, whether or not to pass through this contribution. Most fundamentally it is because under State law in almost every jurisdiction we know of, any federally mandated contribution will be seen as a normal operating expense, a normal cost of doing business.

Senator MITCHELL. Is there the slightest doubt in your mind if the legislation is enacted?

Mr. FADEN. Not as the legislation is currently written. I think you could do something about that if the legislation would go forward. And we don't advise its going forward.

As Senator Stafford's questions to all the witnesses indicate, this committee could write a clause into the legislation setting out a maximum contribution, a maximum amount that any contribution can be passed through the ratepayers, a ceiling of ratepayer payment on any utility contribution. We suggest that ceiling be zero, in other words that all contributions made under this bill be paid out of the utilities own profits.

In our statement we indicate for a number of the utilities that have played a leading role in Edison Electric Institute what the effect on their profits would be. Just to give you a couple of examples, Consolidated Edison will pay one one-thousandth of its 1981 profits. Specifically they would pay approximately $248,000 out of $448,000,000.

Likewise, Commonwealth Edison will pay $1 million 600 thousand from its 1981 profits of $449 million. The same principle applies to virtually all of the utilities that we are aware of that have the money to operate nuclear reactors in the first place.

We believe that talk of a GPU bankruptcy is more scare talk designed to move this Congress into action. As GAO testimony just now indicates GPU's finances, while they are not healthy, have stabilized quite a bit. GPU's own annual report for 1981 on page 3 says that:

> The recent rate relief granted in Pennsylvania should enable Met Ed to meet its 1982 and 1983 tax obligation and a major 1983 bond refunding requiring only a relatively small level of short-term borrowing for working capital.

It goes on to say that Jersey Central's requirements are dependent on the actions of the New Jersey Board of Public Utilities.

We believe that while GPU's finances could certainly be improved, they are not on the brink of bankruptcy. More fundamentally, we believe based on their previous actions that the Pennsylvania and New Jersey commissions will do whatever is necessary to keep GPU out of bankruptcy. We do not believe that is Congress role.

Finally you and other members of this committee have asked, if this legislation is not passed how will the cleanup go forward? We believe that the responsibility lies with the NRC under the Atomic Energy Act to make sure this cleanup goes forward. The responsibility also lies with them at this moment to make sure that GPU is doing all it can to reduce or mitigate the hazards that Mr. Denton and Mr. Snyder referred to earlier. If those hazards are imminent, and we don't believe they are, we believe the NRC is overstating the situation and particularly Mr. Palladino's letter is overstating it, but if those hazards are as imminent as the letter implies then it is incumbent on NRC to take action and we have not seen NRC do that.

If the cleanup were to be shut down, we believe NRC has the responsibility and duty to immediately issue the orders necessary for

GPU to take whatever the next steps are in the cleanup at that time.

GPU would then be legally required to comply with those orders and its expenses of compliance would be a cost of doing business that the Pennsylvania and New Jersey commissions would likewise be legally required to include in the rate base in the next rate case.

We believe that is not confrontational as Mr. Kuhns indicates, but that is the legal process working its will. We don't believe the situation exists now that would require Congress to step in and divert that process from its customary course.

That will conclude my prepared statement. We would be all happy to answer any questions you have.

Senator MITCHELL. Thank you and those with you Mr. Faden, there will be no further questions. That was a persuasive statement. Your written statement will be placed in the record. The record will remain open to permit other members of the committee who have questions of witnesses to submit those questions in writing and the responses will be submitted for the record.

That concludes the hearing, the committee is adjourned. Thank you very much.

[Whereupon, at 1:30 p.m. the hearing was adjourned.]

[Statements submitted for the record, responses to written questions, and the bill S. 1606 follow:]

TESTIMONY OF GOVERNOR DICK THORNBURGH

Before a Hearing of the
Senate Committee on Environment and Public Works

Mr. Chairman and members of the Committee:

I regret that long-standing prior commitments do not permit my personal involvement today in the Committee's consideration of S. 1606. Because I believe that no community is really very far from Three Mile Island, S. 1606 represents one of the most important pieces of legislation you will consider in this session.

Mr. Chairman, I particularly want to recognize your long-standing commitment to our nation's health and environment.

The interest and concern of Senator Heinz and Senator Bradley regarding the cleanup at Three Mile Island are well documented here in Washington, most recently by their successful effort in drafting and shepherding in the Senate Energy Committee the proposal before you today.

The Committee's attention to this problem is certainly well directed, for we are talking about the protection of health, safety and environmental integrity, not only for those of us who live in the shadow of Three Mile Island, but in every part of this nation that is served by commercial nuclear power. Indeed, the lessons learned at Three Mile Island may prevent -- in fact, may have already prevented — another serious nuclear accident from occurring somewhere else in this country.

It has been more than three years now since the worst fear of modern man almost came to pass in central Pennsylvania. Three Mile Island represented a test which few of our institutions have been able to meet as well as we might have hoped. Today, however, I believe we have the opportunity to come to grips, at last, with the worst legacy of TMI — the legacy of continued storage of dangerous levels of radioactive contamination within a facility that was neither intended nor designed for such a purpose — the crippled TMI reactor Unit 2.

Thanks to the concern and interest demonstrated by Senators Heinz, Bradley and McClure, and other members of the Senate Energy Committee; by members of the House of Representatives, particularly by members of the Pennsylvania and New Jersey delegations; by my fellow Governors, especially Governor Kean; by the Department of Energy, the Office of Management and Budget, and by the General Accounting Office; thanks to the sense of responsibility demonstrated last September by the nation's investor-owned utility industry; thanks to the support of concerned Americans of many professions and points of view; to the President for his statements and actions in support of this effort; to responsible action of the Pennsylvania Public Utility Commission (PUC); and most particularly to Senator Hart and

Senator Simpson for their three-year-long resolve to responsibly seek a solution to this serious health and safety problem, I believe we can now write a very different chapter in the history of Three Mile Island.

I believe it can be a chapter of triumph, at last, over those human and institutional frailties that all too often find us divided against ourselves, a chapter that may well be entitled "What Went Right" in our response to the worst legacy of the worst accident in the history of commercial nuclear power.

Conditions at Three Mile Island, three years after the accident, continue to pose a serious health and safety threat to the residents of this area and to those living in states adjacent to Pennsylvania.

The gravity of this situation was recently explained by NRC Chairman Nunzio Palladino in letters to selected members of the Congress. The Chairman cited the need for cleanup to proceed expeditiously in order to avoid the potential for the degradation of containment integrity and equipment capability and for unexpected releases of radioactive material into the environment. He urged that the federal government take whatever steps necessary to expedite the safe removal of the contamination that continues to threaten those in the area affected by Three Mile Island.

I share the urgency expressed by Chairman Palladino and many others who recognize the dangers posed by this crippled facility. My views on the need to vigorously pursue the cleanup are well known. Last July, when I issued my shared cost proposal to finance the cleanup of Three Mile Island, the health and safety of the public was my first and foremost concern. At that time, a great deal of consideration was being given to the restart of TMI Unit 1 and very little attention was being directed to seeking realistic ways to finance the $760 million I was told it would take to complete the decontamination effort.

It was clear then, as it is now, that unless some mechanism for sharing the enormous burden of cleanup could be implemented, we would face the prospect of bankruptcy of a major electric utility company, which would further aggravate and compound the health and safety threat posed by the crippled TMI-2 facility.

Under the comprehensive cost sharing proposal I have advanced, the burden of cleanup would be shouldered by those who were directly responsible for or benefited from the development of nuclear power and those who would benefit from the lessons learned from the cleanup of TMI that would make nuclear technology a safer and more reliable energy source.

I was aware at the outset that there was no assurance that this plan could be successful in every detail and exact share.

The objective of the shared cost proposal was not necessarily to raise exactly $760 million, but rather to assure funding of at least $100 million per year for enough time, perhaps four to six years, to guarantee the decontamination effort necessary to achieve core removal and eliminate the most serious threat to public health and safety.

The first major breakthrough in converting this plan into a commitment was achieved at a meeting of the Board of Directors of the Edison Electric Institute (EEI), the trade association representing the nation's privately-owned utility companies. On September 10, 1981, in Kansas City, EEI pledged to raise $192 million in cleanup funds from the nation's electric utility industry. I felt that this action would send a clear and positive signal to other parties in this effort, and it appears to have done so.

Indeed, significant progress in implementing the cost sharing approach has been made since last September, when there was not one thin dime available for TMI cleanup other than insurance monies.

Today, federal funds are being used for Unit 2 cleanup as part of the Reagan Administration's commitment of $123 million to a TMI research and development program aimed at better protection of public health, safety and environmental integrity in the future.

In January, the Pennsylvania Public Utility Commission approved the concept of local customer participation in the cleanup cost sharing effort and directed that $37.5 million of GPU customer revenues be channeled annually into cleanup following the restart of Unit 1.

In addition, $5 million, representing the first of six installments totalling $30 million from the Commonwealth of Pennsylvania, has now been appropriated by the Pennsylvania General Assembly in our FY 1982-83 budget. I also have discussed with Governor Kean, of New Jersey, the role of his state in the TMI cleanup, and I have been encouraged by his positive response to the cost sharing proposal.

In the months that have transpired since EEI adopted its cost sharing resolution, I have followed with interest the debate concerning the need for federal legislation to implement the nuclear utilities' share of cleanup.

While my original cost-sharing approach was silent on the need for any federal legislation to secure the proposed contribution from the nuclear industry, EEI and others have subsequently determined that the industry's commitment can be most equitably realized by defining specific shares for each nuclear utility's participation, so that each can reasonably rely on the other's fair share contribution.

Such an approach appears to me to be both prudent and responsible, and it was on this basis that Senator Heinz and Senator Bradley moved the legislation before you today.

This approach would ensure that specific sums are made available on a schedule which would allow for steady and continuous progress toward cleanup.

I believe this legislation has been constructively developed and that this bill will assure that a major portion of the cost sharing plan will be uniformly and equitably implemented throughout the entire nuclear utility industry. Therefore, I would urge this Committee to support the efforts of those nuclear utility companies that have recognized that it is in their own interest, as well as the national interest, to rid this nation of the serious health, safety and economic consequences of the most serious accident in the history of commercial nuclear power. The financial impasse that has for over three years prevented the safe and expeditious cleanup of Three Mile Island finally can be broken through a positive response by the members of this Committee and your colleagues in both houses of this Congress.

Mr. Chairman, you have asked for my views concerning whether this legislation should include a prohibition on pass-through to utility ratepayers. I believe that it would be reasonable to permit the state utility regulatory bodies to use their own discretion in determining how much, if any, of the cleanup cost should be passed on to nuclear utility customers. As currently drafted, the legislation makes clear that states are not required to pass through to rate payers the cost of cleanup, and I believe that this should be an option available to each state regulatory body.

It is appropriate to point out that even if there was a total pass-through -- and I reemphasize I do not feel the legislation should mandate a pass-through — the average cost to ratepayers nationwide under this bill would amount to about nine cents a year.

Mr. Chairman, and members of the committee, I seriously doubt that any of your constituents would begrudge those who have lived with this problem a mere nine cents to free them, and the nation, of a serious and unprecedented threat to health, safety and environmental integrity — regardless of how they may feel about nuclear power in general.

I know the people of Pennsylvania well, and I can assure you they would be willing to spare that much, on top of what they're already contributing, if the accident of geography which brought TMI to their doorstep had bestowed it upon someone else, as might well have been the case, and as might well still be the case if we forego the lessons yet to be learned from that facility.

As to whether the legislation should mandate a financial contribution to TMI-2 cleanup by the nuclear vendors, my original cost sharing proposal recommended that nuclear reactor manufacturers and equipment suppliers contribute to the cleanup at a level commensurate with their stake in the industry. While I have no particular formula for determining a fair and equitable share in this regard, or for inserting the nuclear vendors into this bill, I continue to advocate their participation in the TMI cleanup.

Finally, in regard to your question concerning whether the legislation should require a determination that electric utility rates in the GPU service area are comparable to electric rates in other regions, I would suggest that, in addition to rate comparisons, consideration should also be given to evaluating the percentage of disposable household income that is used to pay for electric power in different areas of the country. I believe this would provide a more accurate comparison of the cost of electricity for consumers throughout the nation.

Mr. Chairman, while I believe that we have made progress in implementing a fair and equitable cost sharing solution to the problem of Three Mile Island, we cannot and must not be satisfied with this progress. Our efforts to clean up Three Mile Island must continue, until the threat of environmental contamination has been removed from that facility and public health and safety have been secured. As I said months ago, we are facing a "crisis of commitment" in paying for the timely and total removal of the radiation legacy at TMI.

Your Committee's assistance in putting that legacy behind us by affirmatively endorsing the recent action of the Senate Energy Committee is vital. I will be pleased to provide the Committee with any information or assistance that might help us reach a national consensus for resolving a problem of national importance.

COMMONWEALTH OF PENNSYLVANIA
OFFICE OF THE GOVERNOR
HARRISBURG

June 11, 1982

The Honorable Alan K. Simpson
Chairman
Subcommittee on Nuclear Regulation
4204 Dirksen Senate Office Building
Washington, D. C. 20510

Dear Senator Simpson:

I am pleased to provide the enclosed response to your questions regarding the cleanup of Three Mile Island Unit 2.

I would also like to take this opportunity to express my appreciation to you, to Senator Hart and to other members of the Nuclear Regulation Subcommittee for your concern, interest and effort over the last three years in helping to resolve the serious health and safety problem posed by the damaged Unit 2 facility. With your assistance, we have made considerable progress in resolving the complex financial impasse that has impeded the expeditious cleanup of the most serious accident in the history of nuclear power. It is my hope that this last major component of the cleanup cost sharing plan -- the industry share legislation introduced by Senators Heinz and Bradley -- will receive timely and favorable consideration by the Congress.

Those of us who have been involved with this problem know fully that it is in the best interest of the entire nation that we overcome the cleanup impasse in order to protect the long-range health, safety, environmental and economic interests of virtually every electric utility customer in the country. Through your efforts and those of Senators Bradley, Hart, Heinz, McClure and others, the national impact of the Three Mile Island accident is now more fully realized by the members of Congress.

I know that I speak for all Pennsylvanians who have been most seriously affected by the accident in expressing to you our deepest appreciation and continued support of your efforts in pursuit of the solution to this problem.

Sincerely yours,

Dick Thornburgh
Governor

QUESTIONS FOR STATE OF PENNSYLVANIA WITNESS

1. IN TESTIMONY BEFORE A JOINT HEARING OF THE ENVIRONMENT AND ENERGY COMMITTEES LAST OCTOBER, GOVERNOR THORNBURGH INDICATED THAT THE APPORTIONMENT OF CLEANUP COSTS IN HIS COST-SHARING PROPOSAL WAS BASED ON TWO FACTORS: A 50-50 SPLIT BETWEEN NATIONAL AND REGIONAL RESOURCES AND A QUALITATIVE ASSESSMENT OF RELATIVE RESPONSIBILITY. IF, UPON ASSESSING THE CONDITION OF THE REACTOR CORE, IT TURNS OUT THAT THE $760 MILLION ESTIMATE OF REMAINING CLEANUP COSTS IS TOO LOW, HOW DO YOU PROPOSE TO MEET THE SHORTFALL?

2. WOULD YOU BE PREPARED TO RECOMMEND THAT SUCH A SHORTFALL BE MET BY INCREASING CONSUMER RATES IN THE GPU SERVICE AREA?

3. IF CONGRESS WERE TO REJECT S. 1606, WOULD YOU BE PREPARED TO PROPOSE AN ALTERNATIVE SOLUTION THAT RELIES EXCLUSIVELY ON PENNSYLVANIA RESOURCES?

4. WHAT IS THE STATUS OF YOUR ADMINISTRATION'S REQUEST TO THE PENNSYLVANIA STATE LEGISLATURE FOR $30 MILLION FOR CLEANUP COSTS?

5. GOVERNOR THORNBURGH INDICATED LAST OCTOBER THAT IT WOULD BE HIGHLY UNLIKELY THAT THERE WOULD BE ANY RELUCTANCE ON THE PART OF THE LEGISLATURE TO APPROVE THE $30 MILLION REQUEST IF THE REST OF THE PIECES FELL INTO PLACE. DO I UNDERSTAND HIM CORRECTLY TO SUGGEST THAT PENNSYLVANIA'S CONTRIBUTION WOULD BE THE LAST TO FALL INTO PLACE, CONTINGENT UPON COMMITMENT TO ALL OTHER ELEMENTS OF THE COST-SHARING PROPOSAL?

6. HOW CRITICAL IS IT, IN YOUR VIEW, TO THE SUCCESS OF THE CLEANUP PROGRAM THAT THE INDIVIDUAL ELEMENTS OF THIS COST-SHARING PROPOSAL COME TOGETHER AT ONE TIME AND IN THE DESIRED AMOUNTS?

7. AS YOU KNOW, THE ADMINISTRATION HAS COMMITTED TO PROVIDING $123 MILLION TO FUND RESEARCH AND DEVELOPMENT ACTIVITY AT TMI-2. GAO ESTIMATES THAT THIS AMOUNT WILL OFFSET ACTUAL CLEANUP COSTS BY APPROXIMATELY $68 MILLION. YET THE THORNBURGH COST-SHARING PROPOSAL CONTEMPLATES A CONTRIBUTION OF $192 MILLION FROM THE FEDERAL GOVERNMENT. HOW DO YOU PROPOSE TO MAKE UP THE DIFFERENCE OF $125 MILLION?

1. I UNDERSTAND THAT DOE AND NRC HAVE RECENTLY ENTERED INTO A MEMORANDUM OF UNDERSTANDING FOR THE DISPOSITION OF THE DAMAGED CORE. ARE YOU SATISFIED WITH THE TERMS OF THE AGREEMENT AND DOES IT, IN YOUR VIEW, ADDRESS THE CONCERNS THAT HAVE BEEN RAISED REGARDING THE CONTINUED PRESENCE ON THE ISLAND OF THE CORE?

2. GOVERNOR THORNBURGH SUGGESTED LAST OCTOBER A POSSIBLE FEDERAL COMMITMENT THAT WOULD GO BEYOND RESEARCH AND DEVELOPMENT ACTIVITIES. HAVE YOU RECEIVED OR ARE YOU SEEKING ANY SUCH ASSURANCES FROM THE ADMINISTRATION THAT THEY WOULD REQUEST SUCH A COMMITMENT FROM THE CONGRESS?

3. WHAT PROGRESS HAS BEEN MADE AT THE STATE LEVEL TO OBTAIN A COMMITMENT FROM THE VENDORS TO CONTRIBUTE TO THE CLEANUP EFFORT?

4. IF THIS BILL WERE TO INCLUDE A REQUIREMENT THAT CUSTOMER RATES IN THE GPU SERVICE AREA BE INCREASED TO A LEVEL COMPARABLE TO THOSE IN SURROUNDING AREAS, WHAT, IN YOUR VIEW, WOULD BE AN EQUITABLE FORMULA FOR MAKING THAT DETERMINATION?

RESPONSES TO QUESTIONS FOR GOVERNOR THORNBURGH

1. The $760M estimate to clean up Unit 2 is based on engineering studies commissioned by GPU and reviewed by the GAO, DOE and others. Governor Thornburgh proposed what he believed to be a responsible cost-sharing approach based on this estimate. The priority must be on getting fixed commitments to participating in the cost-sharing approach and beginning the cash flow necessary to remove the health and safety threat posed by TMI-2. The single major element lacking in this process is action by Congress to facilitate implementation of the electric utility industry's commitment, as reflected in action taken by the Edison Electric Institute last September.

2. By continuing to delay approval of S-1606, Congress is itself increasing the cost of cleanup. GPU has estimated, and the GAO confirms, that cleanup costs will increase about $100M annually due to the inflation effect alone. Virtually all responsible parties have agreed to share in the cleanup of TMI-2, including the national electric utility industry represented by EEI. The Board of Directors of EEI unanimously passed a resolution in September to provide $192M to cleanup. The industry's action is based on the premise that it is in the best interest of all electric utilities and ratepayers to clean up TMI-2. It is now up to Congress to provide the mechanism whereby the electric utility contribution can be provided in a fair and equitable manner. S-1606 provides that mechanism and continuing to delay approval of the industry share bill serves only to unnecessarily increase the cost of cleanup, a cost escalation that can be halted by positive action by the Congress.

3. Virtually all parties have concurred that cost sharing represents the most fair, equitable and viable approach to cleaning up TMI-2. While Governor Thornburgh has repeatedly stated that he is not wedded absolutely to this proposal and its dollar amounts, there has been a growing concensus of support for cost-sharing and no realistic alternatives have been forthcoming. Support for cost-sharing has been followed by commitments from all major parties involved in contributing to cleanup. The single obstacle impeding the implementation of an expeditious cleanup program is the Congress, which is being asked by the electric utility industry to assure equity in the administration of the industry's commitment that was approved by representatives of utilities from throughout the nation represented on EEI's Board of Directors. Not only have these producers of electricity in the U.S. represented by EEI endorsed and committed to cost-sharing, but the electric utility regulators, represented by the National Association of Regulatory Utility Commissioners, endorsed and urged Congress to enact a national cost-sharing plan.

Based on this support, it would appear that alternative plans are unnecessary and the clear priority is for Congress to implement what virtually all responsible parties are urging.

4. The Pennsylvania General Assembly approved Governor Thornburgh's request for a $5M appropriation from the state General Fund to be used for Unit 2 cleanup during the fiscal year beginning July 1, 1982. This represents the first of six installments for TMI cleanup which will total $30M from the Commonwealth of Pennsylvania.

   In addition to the commitment from Pennsylvania, New Jersey Governor Thomas Kean announced on May 24 his state's support of Governor Thornburgh's cost-sharing plan and pledged to seek over $11M in New Jersey contributions to the cleanup effort.

   New Jersey's commitment represents a significant step, both financially and in principle, toward the cooperative effort that remains our best and possibly only hope of removing a certified threat to public health, safety and environmental integrity at TMI.

5. Pennsylvania's commitment is not contingent upon anything. The money has already been appropriated by the state General Assembly and is now on the table, ready to be expended on TMI cleanup this year.

6. All elements of the cost sharing program do not have to necessarily come together at one time. However, according to the NRC, GPU and the GAO, between $100M and $150M must be available annually for a sustained and effective cleanup program to commence.

   While Governor Thornburgh has stated on several occasions that he is not wedded absolutely to his particular proposal and that the amounts suggested are not cast in stone, the Thornburgh cost-sharing plan was designed to provide funds sufficient to maintain an expeditious cleanup program on an annual basis for a period of six years. In order to maintain this cleanup schedule, GPU has placed heavy emphasis on the need for predictability of funding the cleanup at about $100M to $150M annually.

7. We believe the commitment by the Reagan Administration represents a significant step in a cooperative effort to finance the cleanup of TMI-2, both in terms of the financial impact the federal funds will have on the cleanup and in the acceptance of the principle of cost-sharing. We doubt that there will be any further consideration of the federal share of the cleanup which has been provided in a period of federal austerity and fiscal restraint.

The concept of cost-sharing has been fully accepted by the parties involved in cleanup and firm commitments have been forthcoming from the federal government, the states, the Pennsylvania Public Utility Commission and the electric utility industry. All eyes are now on Congress which has the responsibility of insuring that the utility industry's commitment is implemented in a fair and equitable manner. The priority must be on the measure currently before Congress - S-1606 -- which represents a major share of the cash flow necessary to remove the health and safety threat posed by Unit 2.

8. We were very pleased with the agreement reached by DOE and GPU regarding disposal of the damaged fuel core at TMI-2. Prior to the agreement, DOE planned to take possession of only 15% of the damaged core. The remainder would have been stored on the Island indefinitely, since there is no alternative for disposing of the core without the federal government's participation.

   The DOE/GPU agreement was the culmination of discussions held over several months during which Governor Thornburgh urged DOE to take the entire core. The Memorandum of Agreement between GPU and DOE provides the framework for the removal and disposition of all redioactive fuel, byproducts of the reactor's operation, and other contaminated debris that make up the core of the reactor. This agreement, together with an earlier agreement between DOE and the NRC concerning radioactive waste removal, provides assurances to the residents of central Pennsylvania and adjacent states that all radioactive wastes will be accounted for and moved off of Three Mile Island.

9. During the Senate hearing on TMI on October 20, 1981, when Senator Hart postulated that there might be only $20M of R&D associated with Three Mile Island, and Governor Thornburgh posited as a possible response that if only $20M of direct cleanup assistance would be forthcoming, it might be necessary to seek other rationale to more fully involve the federal government -- this was a purely hypothetical exchange. At the time, neither Senator Hart nor Governor Thornburgh knew the cleanup value of the federal commitment. As it turned out, the cleanup value is more than three times $20M. That was a significant commitment. Now it's time for Congress to act.

10. No progress has been made in obtaining commitments from the vendors because Congress has thus far refused to act on the industry share of the cleanup. We are hopeful that if Congress approves the industry share legislation, others will follow with cleanup contributions.

11. Customer rates in the GPU service area already are comparable to surrounding areas and nearly 70% higher than before the accident. A survey of the average annual residential electric utility bills of privately owned U.S. utilities in 1981 showed that customer bills of GPU's subsidiary, Jersey Central Power and Light, were already the fifth highest in the nation. Met Ed customer bills were higher in 1981 than average bills in Ohio, New York, West Virginia and Maryland as well as most states in the New England region including Massachusetts, Vermont, Maine and Rhode Island.

Moreover, it is important to consider what percentage of disposable household income goes to pay for electric power in different areas of the nation. For example, in New York, customers of Consolidated Edison spend 1.4 percent of their disposable household income on electric utility bills, while in Pennsylvania, Met Ed customers must spend 2.6 percent of their disposable income for electric power.

It is clear that however you look at the issue of comparability of electric rates, customers of the GPU system are paying electric bills that are as high as virtually any utility customer bills in the U.S. and certainly in this region, and are spending a greater percentage of available income to pay this bill.

TENNESSEE VALLEY AUTHORITY
KNOXVILLE, TENNESSEE

APR 27 1982

The Honorable Robert T. Stafford
Chairman
Committee on Environment and Public Works
The United States Senate
Washington, DC 20510

Dear Mr. Chairman:

We understand that it is satisfactory for TVA to present for the record TVA's testimony on S. 1606 which you requested on April 22.

The statement presenting TVA's views is enclosed, and we would appreciate its being included in the record of the hearing. In addition, if there are questions on which we could supply information, we shall be glad to submit answers for the record.

We appreciate the opportunity to provide our views.

Sincerely,

C. H. Dean, Jr.
Chairman

Enclosure

STATEMENT OF HERBERT S. SANGER, JR.
GENERAL COUNSEL
TENNESSEE VALLEY AUTHORITY
BEFORE THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
U. S. SENATE
APRIL 28, 1982
S. 1606

Mr. Chairman, members of the committee, I am pleased to present the views of the Tennessee Valley Authority on the pending legislation to require nuclear plant owners across the Nation to contribute to the cost of cleaning up Three Mile Island Unit 2.

We do not think it is necessary or fair for TVA electricity consumers to contribute to the cleanup costs of TMI-2 at this time. The money involved for TVA's customers would be $1.6 million a year under S. 1606 and $3.8 million a year under H.R. 5963; and it is an after-the-fact assessment which has generally been considered unjust under the laws of this country. Moreover, this particular case, it seems to us, has little or no equity to recommend it. Since publicly owned electric power systems, like TVA, have no stockholders from which to obtain these funds, their only recourse will be to collect them from their own customers in the form of higher rates.

TVA believes that the future of nuclear power in this country depends on the nuclear industry and utility executives shouldering the responsibility of ensuring that nuclear plants are safely built and operated. Although this legislation will not spend tax dollars, its enactment will create an impression that the Federal Government will always "bail out" utilities that experience a nuclear plant accident. This will not encourage nuclear plant operators to accept the responsibility for their actions.

The GPU rate increases that would be necessary to pay all the TMI-2 cleanup costs are not more than should be appropriately assumed by GPU customers. GAO has estimated that rate increases sufficient to pay all such costs would only range between 4 percent and 15 percent. The chairman of GPU has estimated these rate increases would range between 5 percent and 16 percent. Even with these increases, however, customers of several neighboring utilities would still have higher rates according to GAO.

This legislation, if enacted, may continue beyond its original 6-year period. First, it would establish a precedent. Second, more cleanup funds than presently estimated may be needed. All those who have worked with nuclear power have experienced the problem of actual costs exceeding estimates, and there is little reason to believe it will be any different in this case. Third, Federal taxpayer funds to pay much of the cleanup costs are unlikely. The pressure to use this national utility fund--even increasing the contributions--will intensify.

While TVA opposes the proposed retroactive assessments, we do have some suggestions which might be considered to prospectively avoid the necessity of this same debate recurring should there be large cleanup costs at another plant in the future. As we see it, the reason for this present debate is that GPU has an "insurance gap." If GPU's property damage insurance had been sufficient to pay all the cleanup costs, there would be none of the pressure we are experiencing today for taxpayers, nuclear plant owners, and their customers to pay GPU's costs.

Fortunately, since the TMI-2 accident, the private insurance carriers have increased the amount of coverage they offer. This should reduce--but does not eliminate--any prospective "insurance gap"--and the inevitable pressure for someone else to pay. NRC has also taken a valuable step in its March 24 regulations that require nuclear plant licensees to possess the maximum insurance available or convince NRC that they possess an "equivalent amount of protection." Finally, the chief bill being considered in the House of Representatives, H.R. 5963 (Representative Ertel's bill), would go one step further and ensure that the "insurance gap" is eliminated by 1985. Specifically, it would require NRC to ensure as a condition of a license that each nuclear plant licensee possessed the financial responsibility--insurance or otherwise--to pay the full cost of decontaminating a nuclear plant after an accident. We think this concept has merit and deserves serious consideration by this committee also.

STATEMENT OF NRECA ON THREE MILE ISLAND CLEANUP
BEFORE
THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
April 28, 1982

Mr. Chairman, my name is Morgan D. Dubrow. I am Senior Staff Engineer of the National Rural Electric Cooperative Association (NRECA). NRECA is the national trade association of about 1000 rural cooperatives which supply central station electricity to some 25 million people in the rural areas of 46 states. Consumer demand for electricity in the agricultural areas of the nation last year increased by about 1 percent. Many of our member systems experienced reduced growth in kilowatthour use in 1981, in large part due to conservation, the increased costs of electricity, and a decline in business activity. However, our cooperatives had an increase in peak demand, the highest in history.

NRECA has been a strong supporter of nuclear power production since the inception of the program by President Eisenhower in the early 1950s. The Elk River Plant in Minnesota, which was started in 1956 and completed in 1960 by the United Power Association, was one of the early efforts to produce electricity at small nuclear power facilities. The La Crosse Nuclear Generating Station of the Dairyland Power Cooperative began commercial operation in 1969 and is continuing to help serve our consumers in Wisconsin.

As of now, there are a total of 33 generation and transmission cooperatives in 24 states engaged in joint ventures with some utilities for the production of nuclear power. Our cooperatives own about 5100 MW of nuclear power for which they are committed to repay in excess of $7.7 billion.

Unfortunately, during the past 12 months some of these cooperatives have been faced with the cancellation of plants at the following locations:

Associated Electric	Missouri	Black Fox	500 MW from 2-1150 MW plants
Western Farmers Electric	Oklahoma	Black Fox	400 MW from 2-1150 MW plants
Vermont Electric G&T	Vermont	Pilgrim	16 MW from 1150 MW plant
Dairyland Power Cooperative Power Assn.	Wisconsin Minnesota	Tyrone	Small percentage of 1100 MW plant
Pacific Northwest	Washington Oregon Idaho Montana		540 MW of 2700 MW from WPPSS #4 and #5

Let me point out that the decision to invest in nuclear power facilities was based on thorough and exhaustive engineering and economic analyses of all power supply alternatives. The study revealed that nuclear power was the most desirable, both from an environmental and economic standpoint.

As a result of these cancellations, 157 of our member systems in Missouri, Oklahoma, Vermont, Washington, Oregon, Idaho and Montana must repay at least $1.5 billion and receive no electricity from the cancelled plants. This $1.5 billion at 14 percent interest over a 30-year period amounts to about $5.5 billion. In addition, the more than 150 distribution cooperatives purchasing power directly from investor-owned utilities with cancelled nuclear power plants are also contributing to termination costs. The 54 cooperatives in the Pacific Northwest that purchase power directly from Bonneville also are being assessed for the continued increasing costs of WPPSS Plants Nos. 1, 2 and 3. Our cooperatives in the Tennessee Valley Authority region also are incurring a part of the cost of postponing and mothballing nuclear power facilities in the Tennessee Valley.

Approximately half of our member systems presently are contributing, through rate increases, to very large unanticipated cost overruns for nuclear power facilities throughout the country which for one reason or another have been cancelled or terminated.

We are deeply concerned that several hundred of our member systems must add $5.5 billion to their power bills for the next 30 years and receive no benefit. NRECA feels these member systems deserve relief just as much as and, in many cases, even more than the owners of Three Mile Island. We oppose S. 1606, a bill designed to assess all utilities with operating nuclear power plants -- investor-owned companies, public entities and rural cooperatives -- to cover the cost of cleanup and rehabilitation at Three Mile Island.

Our basic position on the cleanup of Three Mile Island Unit No. 2 was set out in the exchange of letters (copies attached) between Mr. William McCollam, Jr., President of Edison Electric Institute, and Mr. Robert D. Partridge, Executive Vice President and General Manager of NRECA. President McCollam indicated in his letter that EEI's Board of Directors recommended that the electric utility industry contribute $192 million to the cleanup of Three Mile Island Unit No. 2. NRECA was pleased to see that the members of EEI were willing to provide funds to participate in this much needed cleanup. We discussed this matter with several managers of generation and transmission systems that are joint owners of nuclear power facilities. Since the $192 million probably would be levied as an assessment, by contract our G&T joint owners would automatically be billed for their appropriate share. In addition, we have 260 cooperatives that are members of the Electric Power Research Institute. To the extent that EPRI shares in the cleanup of TMI Unit No. 2, these member systems also will participate.

NRECA opposes legislation which would arbitrarily assess our member systems for the cleanup of TMI Unit No. 2. However, we believe that the Federal Government should contribute financially and participate in the cleanup because much of the work would be in the nature of research. We would support direct appropriations for such work.

In conclusion, NRECA opposes this legislation. We cannot in good conscience support a mandatory assessment for this purpose when approximately one-third of our member systems are already obligated to pay $5.5 billion over the next 30 years and receive no electricity from nuclear power plants that have been terminated.

If the Committee and the Congress elect to pass any legislation which arbitrarily requires the utility industry to contribute to the cost of the cleanup and rehabilitation of TMI-2, we respectfully request that such legislation include those cancelled plants previously mentioned in my testimony from which are member systems receive no benefits.

We thank you for the opportunity to express our views.

Attachments

NRECA NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION
1800 Massachusetts Avenue, N.W.
Washington, D.C. 20036/202-857-9500

October 2, 1981

Mr. William McCollam, Jr.
President, Edison Electric Institute
1111 19th Street, N.W.
Washington, D.C. 20036

Dear Bill:

This is in response to your letter of September 15 in which it was indicated that the EEI Board of Directors recommended that the electric utility industry contribute $192 million to the clean-up of Three Mile Island Unit No. 2. We believe that the Federal Government should participate in the clean-up because much of the work would be in the nature of research and know that efforts are underway to obtain both technical and financial assistance from the Department of Energy.

Meanwhile, NRECA is in the process of determining the level of member interest in such an effort. We are discussing this matter with a number of our Generation and Transmission Cooperatives that are co-owners of nuclear power facilities. We shall also be discussing it at the G&T managers' fall meeting.

We wish you every success in this worthwhile endeavor.

Sincerely,

Robert D. Partridge
Executive Vice President
and General Manager

RDP:ajl/MDD

RE

WILLIAM McCOLLAM, Jr. President

EDISON ELECTRIC INSTITUTE The association of electric companies

1111 19th Street, N.W
Washington, D.C. 20036
Tel: (202) 828-7400

September 15, 1981

Mr. Robert Partridge
Executive Vice President and
General Manager
National Rural Electric Cooperative
Association
1800 Massachusetts Avenue, N.W.
Washington, D. C. 20036

RECEIVED
SEP 16 1981
OFFICE OF
GENERAL MANAGER

Dear Bob:

At its September 10th meeting the EEI Board of Directors recommended that the electric utility industry contribute $192 million to the clean-up of Three-Mile Island Unit No. 2. Prior to the voting on this recommendation of the Task Force on Nuclear Institutional Issues, Governor Dick Thornburgh of Pennsylvania addressed the EEI Board on his "cost-sharing" approach to the TMI-2 clean-up issue. Attached is a press release describing the Governor's participation in our Board meeting and the action of the Board.

You will note that it is our recommendation that the entire electric utility industry contribute to the clean-up. We reached this conclusion because of our conviction that the financing of all electric energy systems has been impacted adversely by the lack of a solution to the TMI-2 clean-up problem. We hope that the National Rural Electric Cooperative Association will join with us in not only explaining the need for this participation by the entire electric utility industry, but also urging the Congress and the Administration to participate in the clean-up program and if necessary support legislation which will mandate an equitable sharing by the electric utility industry in its suggested portion of the clean-up costs.

Sincerely yours,

Bill

William McCollam, Jr.

WM:jkv
Attachment
cc: L. T. Austin, Jr.

EDISON ELECTRIC
INSTITUTE The association of electric companies
1111 19th Street, N.W.
Washington, D.C. 20036

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(816)474-4400

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Kansas City, Mo., September 10 -- Pennsylvania Governor Dick Thornburgh today announced that the Board of Directors of Edison Electric Institute (EEI), the trade association representing the nation's privately owned electric utilities, has voted to recommend that the electric utility industry invest a total of $192 million in the radiation clean-up of Three Mile Island.

The EEI action followed a presentation by Thornburgh of the comprehensive TMI cost-sharing plan the Governor proposed two months ago.

"This action represents a major breakthrough in the long and frustrating impasse over TMI clean-up funding," said Thornburgh, who was accompanied at a press conference, following the vote, by T.L. Austin, Jr., chairman of EEI's Task Force on Nuclear Institutional Issues.

"The sense of commitment and responsibilities demonstrated by the utility company executives assembled here today should send a clear and positive signal to others -- one that can mean the difference between a continuing TMI crisis and a new TMI consensus in the weeks ahead," the Pennsylvania Governor said. "For the first time, it has been recognized that TMI, but for an accident of geography and human error, could have happened anywhere in the nation.

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"I want to commend the EEI Board for its leadership in taking the first significant step toward converting this plan into a commitment -- a step which can make the rest of this crucial but difficult journey far more promising," Thornburgh added.

Austin meanwhile praised Thornburgh for "the constructive and tireless leadership he has given his commonwealth and his country in seeking a fair and effective resolution of this problem."

Thornburgh appeared before the EEI Board prior to the vote on a resolution closely paralleling the national TMI cost-sharing plan he had proposed July 9. He said he now plans to take the case for clean-up funding to Congress and the White House.

Thornburgh had called on July 9 for a 50-50 split of the remaining $760 million in estimated clean-up costs between national and local resources.

He proposed that -- over a 6 year period -- the national nuclear and utility industries provide approximately $190 million, the federal government put up another $190 million, General Public Utilities Corp. (GPU), the owner of TMI, provide $245 million, and the states of Pennsylvania and New Jersey (home of GPU) provide another $45 million.

The remaining $90 million in cost would be met, under the Thornburgh plan, through the use of unexpended insurance funds.

"It should be remembered," Thornburgh said, "that we seek these commitments not only for a short term health, safety and peace of mind of those Americans who happen to live within the shadow of Three Mile Island, but for the long term security of those who are served by nuclear power plants throughout the nation as well."

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The Governor reiterated the widely held view that the lessons learned and yet to be learned from the TMI clean-up operation -- the first of its kind in history -- will be of "enormous benefit to Americans of all regions."

Under the resolution adopted by the EEI Board today, it was recommended that the electric utility industry provide $192 million in clean-up funds over the 6 year period. This would include $16 million a year from electric utilities -- regardless of whether they are involved in nuclear power generation -- and an additional $16 million a year "surcharge" on those companies with nuclear power operating licenses or construction permits.

Austin, who serves as Chairman of the Board of Texas Utilities Company of Dallas, said that "while EEI believes that the other entities should participate in the financing of the clean-up, the EEI proposal would not be contingent on such participation."

Thornburgh's plan did not limit its call to the investor-owned utility industry. The Governor has suggested that other utility systems, manufacturers, and suppliers of the nuclear industry also share a stake in the successful resolution of the TMI impasse.

The entire industry, he said, would be "the principal beneficiary of any renewed public confidence that may emerge from the successful handling of this problem."

Austin, meanwhile said today that the EEI board not only endorsed participation in the plan by its own industry, but by the federal government, GPU, Pennsylvania, and New Jersey as well, along the lines envisioned by the Thornburgh plan.

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Among alternatives that will be explored is the channeling of all funds provided by the electric utility industry and GPU into a "segregated trust account," or non-profit instrumentality.

Austin said that "this would assure that the funds provided by the industry are used soley for that purpose."

He said the EEI Board "recognized that it is unlikely funds provided by government agencies could be paid over directly to the trust account. There will be a need," he said, "to coordinate the expenditure of such governmental funds with funds from the trust or instrumentality account."

In his proposal Thornburgh suggested the creation of a "National Energy Research Institute" (NERI),"to be available to serve as a conduit for financial and technological clean-up support from the industry and other sources."

EEI's member companies serve more than 99% of all ultimate customers of the investor-owned sector of the industry and about 80% of all customers. About 20% of the nation's electric customers meanwhile are served by publicly owned utilities or electric cooperatives. The public and cooperative utilities are not involved in EEI's proposal, although Thornburgh does not exclude them in his call for industry support.

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Testimony of

Susan M. Shanaman, Chairman
Pennsylvania Public Utility Commission

before the

United States Senate Committee on
Environment and Public Works
(Senator Robert T. Stafford, Chairman)

Hearing on S. 1606, the Electric Utility
Nuclear Accident Cost Allocation Act

May 4, 1982

Room 4200 Dirksen Senate Office Building
Washington, D.C.

Mr. Chairman, Members of the Committee:

Thank you for the invitation to appear on S. 1606. As reported by the Senate Committee on Energy and Natural Resources, the bill provides for financial participation by other nuclear companies in part of the extraordinary cost of decontaminating the TMI nuclear accident site.

This measure is needed for public health and nuclear safety in the Commonwealth of Pennsylvania. We strongly support its enactment. And we respectfully request that this responsible Committee favorably report it, also.

S. 1606 implements an essential piece of our Pennsylvania Governor Thornburgh's plan for allocating the remaining $760 million cost of decontaminating this nuclear accident site among the several separate parties directly effected by it, as follows:

1. TMI's plant insuring companies for the remaining $90 million of their $300 million liability.
2. TMI's consumers, $245 million.
3. The Commonwealth of Pennsylvania, $30 million.
4. The State of New Jersey, $15 million.
5. The electric utility industry, $190 million. And,
6. The Federal Government, $190 million.

This program extends over a six-year period, thus minimizing its financial impact on all concerned.

Briefly, before giving you the status of our efforts implementing it, let me summarize the reason for Governor Thornburgh's allocation. By your Price-Anderson Act, Congress limits a utility's liability for off-site damage to the public from a nuclear accident to $560 million, and requiring an indemnity insurance program covering that amount. As most recently amended, in 1975, it now provides in pertinent part that "following any nuclear incident": Each nuclear reactor may be assessed up to $5 million, and Congress will "take whatever action is deemed necessary and appropriate to protect the public from" any off-site damage over $560 million. In enacting this Price-Anderson Act, the Supreme Court explained in Duke Power, in 1978: "Congress' purpose was to remove the economic impediment (of a potentially larger nuclear liability) in order to stimulate the private development of electric energy by nuclear power."

However, the Court there added: "In the event of a nuclear accident the utility itself would suffer the largest damage" on-site. Yet Congress included no provision to cover this larger ($1.034 billion) cost of decontaminating the damaged plant on-site to prevent its Price-Anderson radioactive damage to the public off-site.

Now neither did Congress include any provision to protect any of the damaged plant's investors, or any of its consumers dependent on its output. And neither does Governor Thornburgh's plan, or S. 1606 help to implement it. TMI's stockholders, whose savings invested in this plant were greatly diminished by this accident, and who had no dividend payment on them since then, will continue without earnings on it. And TMI's consumers, who have had to pay their much higher cost for its replacement power, will go on paying it, as well as their $245 million share of its decontamination cost. S. 1606 deals only with the nuclear electric industry's contribution of $190 million of the $1.034 billion cost of decontaminating this damaged TMI plant on-site, *to prevent its Price-Anderson radioactive damage to the public off-site*.

Faced with that Price-Anderson omission, Pennsylvania's PUC resisted demands that, *in addition* to all of TMI's continuing higher replacement power cost, *all* of its decontamination cost also be collected from its ratepayers, as a "plant maintenance" expense. We resisted for two reasons. First, such an assignment is contrary to our state law. Second, in so assigning the cost of this most extraordinary nuclear "economic impediment," we would be taking an action that we believe it first is the prerogative or responsibility of Congress to take.

In this legislative void, we examined all recommendations for charging this total cleanup cost all to someone of the affected or responsible parties. We found each option unworkable. We can't put the cost on TMI's stockholders, because they have no earnings and no remaining equity capital to cover it. Moving GPU into bankruptcy will not only fail to produce cleanup funds, but will increase consumers' rates and leave the cleanup problem untouched. Placing the entire cleanup cost as well as all replacement power cost on TMI's consumers, on grounds that some still would be paying lower rates than customers of some other companies, would create undue TMI consumer hardships.

Transferring the entire cost to the rest of the nuclear industry, on grounds that this accident is an integral feature of the industry, will not work either. The industry simply won't buy all of it.

And the Federal Government will not pay all or most of the bill, because prior demands on Federal revenues prevent it from doing so.

Faced with this void, and a growing health and nuclear safety hazard, Governor Thornburgh moved to equitably apportion this extraordinary cost of cleaning up the accident among all parties involved.

I will not pretend that each party concerned is satisfied with its apportioned share, or that it is willingly accepted. I will assert, however, that virtually all have agreed to assume their share, in whole or in major part.

In coming this far, where all other efforts failed, we now have a significant achievement. We expect to achieve more. We are now at a critical stage. And we respectfully request that your responsible Committee also recommend that this measure, S. 1606, now go forward -- permitting us to pursue this only available remedy that we have been able to fashion to our public health and nuclear safety problem in Pennsylvania.

Now, is this $760 million solution being put in place? Yes.

First, the remaining TMI plant insurance is available, for $90 million.

Second, Presidential Counsellor Edwin Meese assured Governor Thornburgh in a letter last fall, "that the President intends to request from Congress sufficient funds in future years," totalling $123 million, for TMI's radioactive cleanup and waste removal.[1] This, though short of the $190 million Federal share, was a beginning, and an encouraging one. It provided a foundation for others to move forward to assume their share.

1/ In more detail, the White House explained: "The work that will commence in 1982 is the start of an effort that will continue for the next three to four years. DOE intends to provide technical assistance to clean up the water in the building basement; remove and dispose of abnormal wastes not disposable at commercial sites; remove and evaluate the damaged reactor core; develop special tooling needed for early core access; and other appropriate activities consistent with these guidelines."

Third, last January Governor Thornburgh recommended that Pennsylvania's General Assembly appropriate the first annual installment of its $30 million portion.

Fourth, last January, our PUC allowed the two TMI-owner companies subject to our jurisdiction rate increases which, when the NRC permits TMI-1 to resume operation, will provide $37.5 million annually to help meet the consumers' $245 million share. Both companies will be required to escrow, in trust, this $37.5 million annually for use solely for TMI-2's cleanup.

Fifth, last September through their trade association the electric utility companies pledged their industry to pay its $190 million share.

And, as you know, late last March the Senate Energy Committee favorably reported this revised, Heinz-Bradley bill, S. 1606. It provides for annual payments of 28¢ per nuclear kilowatt in operation or under construction by all electric utilities operating nuclear reactors over each of the next six years. The payments will be made to that independent trust account set up pursuant to our Janaury rate Orders or, alternatively, to an independent U.S. Treasury account, and used to pay for cleanup work as certified by the Department of Energy.

This assessment formula reportedly amounts to about a penny a month, or 72¢ over the six years, for each residential electric bill. And it contains a ceiling protecting companies heavily dependent on nuclear power, effectively limiting their annual payments to not more than 16¢ a year, or 96¢ total over six years, per typical residential customer. I only mention these numbers as an illustration, not as an indication that this assessment must be paid by these systems' consumers. For at Section 9 this measure specifically provides that it does not limit any regulatory agency's authority to assign this assessment to a nuclear company's stockholders or ratepayers. Should it be assigned in whole or in part to a nuclear company's equity shareholders, its effect per share of common stock is inconsequential. Last February, the National Association of Regulatory Utility Commissioners' Executive Committee adopted a resolution affirming "that it is imperative that the U.S. Congress act to provide a cost-sharing mechanism to fund the cleanup of TMI-2...." Specifically, the Executive Committee did not try to deal with the cost assignment issue, and neither did the Senate Energy Committee. The issue will be resolved case-by-case in the future as the overall merits of each case then indicate.

Last, I understand that under this Heinz-Bradley bill, as reported in the Senate, the electric industry will provide a total of about $170 million, rather than the $190 million apportioned.

Here again, while we regret the shortfall, it is this additional $170 million that we are here to report, as another achievement in our long effort to finance cleanup of TMI-2.

Now, this measure is needed, Mr. Chairman and Members, even though these nuclear companies are prepared to pay these fees, in order to protect them against shareholder or ratepayer suits, on claims that this contribution for nuclear decontamination may be a diversion of a nuclear company's revenues.

Further enactment of this measure will not be a precedent, standing to justify similar legislation for any similar nuclear decontamination problem in the future. For since TMI, the nuclear insurance company pools have made arrangements to provide nearly $1 billion in insurance to cover accident cleanup costs, should there be any in the future. And on March 24, the NRC promulgated regulations requiring that all nuclear licensees either possess the maximum insurance available, or convince the NRC that they possess an "equivalent amount of protection."

Finally, there may be other nuclear utility problems which do not present the same off-site public nuclear health peril that we face. Our program was not designed to cure those problems, and thus will not do so. But that, respectfully, is not reason for obstructing or opposing our program which is designed only to cure TMI's off-site nuclear public health and safety peril, something that those other nuclear utility problems do not present.

In conclusion, my answers requested to the three questions posed in your April 22, 1982 letter are as follows:

> Question One. "Whether the legislation should include a prohibition on pass-through to the utility ratepayers of specified percentage of the TMI-2 clean-up fee imposed by the bill"?

No, respectfully, it should not. The reason for the bill, in the view of the nuclear companies willing to pay this fee, is that the decontamination of this nuclear accident site will improve the economic status of these nuclear companies, and the ratepayers they serve, in part by reducing or limiting the overall cost of their capital, which their ratepayers have to pay. The extent to which any company's improvement resulting from this cleanup partly financed by its fee benefits its shareholders, or ratepayers, or both, or neither, can only be determined after the fact, and only by its regulatory agency. The bill now leaves that agency free to do so. And I would not try to guide, or misguide, them on this sensitive matter by specifying in the bill a percentage that they may use, or not exceed, in making their expert judgment determination.

> Question Two. "Whether the legislation should require a financial contribution to the TMI-2 cleanup by the major nuclear reactor manufacturers in this country"?

Respectfully, morally, I believe it should, provided that would not generate lobby opposition preventing its enactment.

> Question Three. "Whether the legislation should require a determination that electric utility rates in the GPU service area are comparable to other electric utility rates in the Northeast region, or in other regions of the country"?

No, respectfully, it should not. Electric utility rates in this country were not comparable in the past. They are not now. I doubt if they ever will be. They vary within regions, even among utilities within the same holding company systems, and between regions.

The GPU companies are no exception. Some rates are higher, and some lower, than other companies in the Northeast and elsewhere. They were before this accident as well as after, for many reasons. Reasons which will not be changed by this accident, or this legislation.

Thus, this legislation is not based on comparability of rates. It cannot be. If you try to do so, you will probably destroy it.

To construe it, briefly, S. 1606 is only to collect from all nuclear companies a part of the heavy cost of decontaminating the site of a nuclear accident, for which the accident-company cannot pay -- and its ratepayers were not responsible. But for which they have had to and will continue to pay in heavy measure.

In fairness, they (the GPU ratepayer) should not pay the total cost of this accident. Because by all other nuclear companies' testimony:

(A). This nuclear accident site's continuing radioactive contamination adversely affects all nuclear companies economically.

(B). They'll all be financially benefitted by its cleanup.

(C). By spreading this limited share to all such companies, in a manner like your Price-Anderson nuclear accident assessments, it is relatively low or manageable for each nuclear company, regardless of its rates. And,

(D). The bill leaves with a company's regulatory agency its authority to decide whether its assessment should be charged to its stockholders, or ratepayers, or in some ratio between them. Whichever, shareholders or ratepayers, the effect of the assessment on any cannot be significant.

If you change S. 1606 to mean any nuclear company having rates sometimes higher than the accident-company need not contribute, you could eliminate so many companies as to destroy your Price-Anderson nuclear accident assessment policy. This bill would be destroyed by making its higher pro-rated cost unacceptable to the remaining nuclear companies. The end result would be that we would turn our backs on this mounting public nuclear health hazard again.

Thank you.

ATTACHMENT

Re: AMENDMENT OF S. 1606 AS REPORTED BY SENATE ENERGY COMMITTEE

As reported by Senate Energy Committee, S. 1606, Three Mile Island (TMI) "Electric Utility Nuclear Accident Cost Allocation Act," contains much unneeded language:

> OJBECTIONABLE to voters opposed to "continued development of nuclear power."[1] And
>
> OBSCURING its narrowly-drawn purpose -- of avoiding any bail-out of TMI's corporate loss, and of providing only (Joint Atomic Energy Committee, H. Rept. 85-435 (1957)): "protection to the people who might suffer damages from" its radiologically toxic accident-site.[2]

Amendments deleting such unneeded language are suggested at page 8 below, following summary of (I) Decontamination cost only, (II) Decontamination need, (III) Potential Price-Anderson payments absent decontamination, (IV) Congress' primary concern, (V) Pennsylvania's primary concern, and (VI) Need for particular legislation after this particular accident.

* * * * * * * * * *

Susan M. Shanaman, May 1982

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[1] E.g., §2 "The Congress finds and declares that -- *** (d) nuclear energy is one of the major sources available for electric energy production in the United States ... and continued development of nuclear power is dependent ... upon public recognition that these facilities do not constitute a significant threat to human health and safety." §3 "The purpose of this Act is to ... provide for the common defense and the interests of interstate and foreign commerce."

[2] §2(a) "An accident occurred" at TMI, (b) its site is "radioactively contaminated," (c) "the risk of environmental contamination in nearby communities" now requires its decontamination, (e) this ruined reactor's owners cannot fund "the cost of TMI-2 cleanup." §3 This provides for (§5)limited contribution by other nuclear utilities of some "of the uninsured cost of the (§4) cleanup"of TMI-2. It is paid to a U.S. "trust fund" (§6) or to a separate "Pennsylvania Trust" (§7) and used only to pay for work certified by Secretary of Energy performed solely for "TMI-2 cleanup." §8 These provisions are enforceable in court. And, §9 nothing affects a regulatory agency's authority to charge a nuclear utility's contribution to its shareholders or ratepayers.

I. ACCIDENT COST

There are three separate categories of known direct TMI-2 accident costs:

> INVESTMENT. To its owner-companies or stockholders, for their $740 million capital investment in this now-ruined reactor; payment of interest and other annual fixed costs that continue on it; and loss of all earnings on it. These losses will not be recouped, except as regulatory agencies allow amortization charges of this $740 million plant loss against ratepayers. S. 1606 does not change this.
>
> REPLACEMENT POWER. To its ratepayers, for their much higher cost they've paid for replacement power, and must continue to pay. These losses will not be recouped. S. 1606 does not change this.
>
> DECONTAMINATION. A remaining $760 million, to decontaminate, remove, and dispose of its ruined reactor, nuclear waste and associated radioactive plant -- to prevent toxic radiation of adjacent people and property.

S. 1606 deals only with this $760 million cost, and only with a proposed $190 million of it.

II. DECONTAMINATION NEED

But for its wreckage being radioactive, TMI-2 could just sit there, like any other abandoned industrial plant, awaiting eventual dismantlement. But it cannot:

(1) since it contins highly toxic radioactive materials, housed in a ruined reactor never built to radioactive storage-site standards,

(2) "since radioactive materials are many times more toxic and poisonous than other substances" (Joint Atomic Energy Committee Report on Price-Anderson Act, H. Rept. 85-435 (1957)), and

(3) TMI-2's "potential for slow degradation of containment integrity and equipment capacity" is increasing, with "increasing concern for an unexpected release of radioactive material" (NRC March 22, 1982 letter to Senate Environment Committee's Nuclear Regulation Subcommittee Chairman).

III. POTENTIAL PRICE-ANDERSON PAYMENTS

Following the 1954 Atomic Energy Act, to encourage private development of nuclear power, industry declined to engage in nuclear power development because its damage liability for an accident could be too great. So in 1957 Congress acted further "to encourage [private] development" of nuclear power: By making "funds available for a portion of the damages suffered by the public" and limiting total nuclear damage liability to $560 million (§2 Price-Anderson Act, PL 85-256, 42 U.S.C. 2012(i)).

This, to the present, provides no payments for "nuclear incident" damage to nuclear property on-site; only payments for "public liability claims" of off-site people and property damaged by it.[1]

As explained by Green's "Nuclear Power: Risk, Liability and Indemnity" at Cong.Rec. S. 27369 in the Senate's 1974 debate on H.R. 15323 (Revising and Amending Price-Anderson):

> "'When an individual is exposed to a large amount of radiation, somatic injury may be immediate and apparent. At lower levels of exposure, however, the radiation may produce a latent injury that does not become manifest until sometime in the future, perhaps years later. *** [S]ince radiation injuries are non-specific, a plaintiff faces immense difficulties in his effort to establish a causal connection between his exposure to radiation resulting from the nuclear incident and an illness that becomes apparent at a later date. Finally, exposure to radiation produces undesirable genetic mutations that become manifest only in later generations, and may also result in a general life-shortening effect.'"

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[1] PL 85-256: "Each license issued ... shall ... maintain financial protection ... to cover public liability claims" (§3 42 U.S.C. 2210(a)). "The term 'public liability' means any legal liability arising out of or resulting from a nuclear incident, except claims *** [for] property which is located at the site of and used in connection with the activity where nuclear incident occurs") §4 42 U.S.C. 2041(w)).

This 1957 Act's definition of "nuclear incident" makes clear that, failing TMI-2 decontamination now, should potential "release of radioactive material" now feared by NRC occur, they (or their estates) may receive Price-Anderson payments for their radioactive damage. Thus, Joint Committee 1957 Report above, emphasis added:

> "The definition of 'nuclear incident' is designed to protect the public against any form of damage arising from the special dangerous properties of the materials used *** While most incidents will be happening which can be pinpointed in time -- such as a runaway reactor or an inadvertent exposure to radiation -- it was not thought that an incident would necessarily have to occur within any relatively short period of time. For instance, the steady exposure to radiation, such as from an undetected leak of radioactive materials from a storage bin, could constitute an incident *** The indemnification agreements are intended to cover damages caused by nuclear incidents for which there may be liability no matter when the damage is discovered, i.e., even after the end of a [40-year] license. That is why the definition of 'nuclear incident' has the phrase 'any occurrence ... causing bodily injury, sickness, disease or death.'"

IV. CONGRESS' PRIMARY CONCERN

April 1980 NRC issued its formal "Determination" (legally unreviewable), that: TMI's radiation releases during its March 28 - May 9, 1979 accident period were not high enough to cause off-site damage compensable under this Act. But: "We believe the accident at TMI demonstrates that these [Price-Anderson] regulations should be reexamined. Indeed, we have some reservations about the criteria and the statutory definition of an 'extraordinary nuclear occurrence' in the light of the TMI experience." (They are "outdated and overly relaxed," one Commissioner added.) While "further releases above those [accident release] levels are possible at TMI," as warned anew, March 1982, "such releases would be separate 'nuclear incidents' within the meaning of the Price-Anderson Act" (Release 80-77, emphasis added).

Congress' "finding" constitutionally supporting this 1957 enactment is twofold: (§2 42 U.S.C. 2012(i)): It is "in the interest of the general welfare and of the common defense." Explaining general welfare (Joint Committee Report above):

"The primary concern of the Federal Government is with the protection to the people who might suffer damages from" a nuclear incident. (Explaining common defense: "many of the reactors which will be built will be producing special nuclear material which is vital for the defense of the country." TMI-2 produced no special nuclear material "vital for the defense of the country.")

Where Congress' "primary concern" and constitutional "finding" supporting this Act is "protection" for people who "might" be irradiated by a damaged reactor, surely Congress did not intend its Act to operate not to protect people against "increasingly" possible off-site radiation (NRC now specifically warns Congress) from the "world's worst nuclear accident," and only to pay them if or after being irradiated by it.

The Joint Committee's 1957 Report makes clear Congress' "primary concern" is not protecting people against radiation due only to a certain kind of nuclear accident. The Report makes clear Congress' "primary concern" is protecting "people who might" be irradiated, "no matter when," due to a nuclear accident. Should application of the Act's wording in a particular accident situation produce a result frustrating its "primary concern" (emphasis added):

> "Congress can change this Act at any time after any particular incident. The Joint Committee wanted to be sure that any such changes in the Act would be considered [by Congress] in the light of the particular incident."

V. PENNSYLVANIA'S PRIMARY CONCERN

During TMI-2's construction near Pennsylvania's Capital, its then-Senator Schweiker moved legislation, S. 2050, 92nd Cong., amending the Atomic Energy Act, to let States set standards higher than Federal standards for limiting nuclear power plant radioactive discharges to the environment. But the Senate rejected it May 17, 1972, by five votes. During TMI-2's construction, in the 93rd Congress when extension and revision of Price-Anderson was under consideration, Pennsylvania's then-Senator Schweiker next moved to amend it as follows: "This section [of Price-Anderson, authorizing the Commission to prescribe terms and conditions of nuclear liability insurance,] shall not be interpreted to preempt the field of strict liability, or to preclude any State from imposing additional requirements." Explaining it, on the Senate Floor August 8, 1974, (Cong. Rec. S. 27277-78):

> "The States should have the right to impose additional requirements for insurance coverage for nuclear facilities to protect their people, in those instances where State authorities feel that there are sound grounds for expanded or additional public protection. ***
>
> "In addition, States such as Pennsylvania ... with reactors in high population areas ought to be able to require higher insurance protection for their citizens than the Federal current limits allow. ***
>
> "Actually, my amendment would give the States the right, individually or together, to work together. In Pennsylvania and New Jersey ... they could get together as to their liability, as could the State commissions, and have the potential to do something."

All four, Pennsylvania-New Jersey Senators supported this Schweiker-Dole-Proxmire amendment, but the Senate rejected it (at S. 27381) -- on floor assurances that should Price-Anderson prove inadequate after an accident, Congress would enact any additional relief justified.

VI. NEED FOR PARTICULAR LEGISLATION AFTER THIS PARTICULAR ACCIDENT

(1) Congress' "primary concern" in enacting Price-Anderson is protection of people who might be irradiated by a damaged reactor. In enacting and extending it, Congress formally reported that if after any particular accident its language does not protect them, Congress will enact additional legislation that does.

(2) Prior to TMI's accident, Pennsylvania's Senators moved Federal legislation to permit Pennsylvania (A) to set higher nuclear powerplant radiation standards to protect its people from radioactive discharges. And (B) to impose further nuclear powerplant insurance requirements to protect its people against an accident. The Senate rejected both Pennsylvania efforts, on floor assurances that if after a particular accident Price-Anderson does not provide adequate protection for Pennsylvania's people, Congress will enact additional legislation that does.

(3) Following TMI's accident, NRC in April 1980 (A) questioned the adequacy of the Price-Anderson Act criteria it applied in making its determination that Pennsylvania people, including children (born and unborn), were not irradiated by TMI accident's off-site radiation releases; and (B) reported that, failing TMI decontamination, further releases by it which will irradiate them are possible.

(4) The remaining cost of decontaminating TMI exceeds $700 million, after use of its owners' $300 million TMI-2 plant insurance for its decontamination. Following NRC's April 1980 report to Congress, it failed to enact additional legislation for TMI decontamination to protect Pennsylvania people from possible further releases irradiating them. Many argued TMI's owners or ratepayers should finance it, instead.

(5) TMI's owners are using all earnings on the remainder of their electric utility systems to pay interest and other continuing fixed annual costs on their ruined, $740 million TMI reactor, and have nothing to pay its remaining decontamination cost. Bankruptcy of these systems would impair use of their remaining system properties to serve the public, and produce no funds for decontamination.

(6) TMI consumers have no TMI ownership, were served by it but a few months before the accident, and were not responsible for it; but now pay much higher rates because of it for replacement power, and also have begun to pay amortization charges for its $740 million plant loss.

(7) Most people adjacent to or downwind from TMI-accident site -- and threatened by it -- are not TMI-system consumers or ratepayers. Congress repeatedly assured these people that Congress will pay to protect them against irradiation from a nuclear plant accident! TMI-system consumers believe they, instead, should not also have to pay to protect those people!

(8) March 22, 1982 NRC through its Chairman again reported to Congress:

> "It is now three years since the TMI-2 accident ... My fellow Commissioners and I therefore want to emphasize our belief that the cleanup of TMI-2 must be accelerated. The potential for slow degradation of containment integrity and equipment capability plus the increasing concern for an unexpected release of radioactive material argue that, as a last resort, it is time for the Federal Government to take a more aggressive role."

(9) As a last resort, S. 1606 proposes that, following Congress' Price-Anderson Act pattern, as amended (authorizing assessments up to $5 million on each nuclear utility "following any nuclear incident" to pay its off-site radiation damage): To prevent TMI-2's increasingly possible, NRC-announced "unexpected release of radioactive material" irradiating people and property

off-site, and triggering all other nuclear utilities' Price-Anderson liability for payment of TMI-2's off-site damage, each nuclear utility pay a limited annual amount to produce over six years a total of $190 million of TMI-2's remaining $760 million decontamination cost.[1]

VII. AMENDMENT OF S. 1606 AS REPORTED

Respectfully, for reasons noted, page 1 above, the Senate Committee on Environment and Public Works could consider amending S. 1606 as reported by the Senate Committee on Energy and Natural Resources:

(1) Deleting all "findings" and other language not legally necessary to its provisions providing for contributions by other nuclear utilities not exceeding $190 million, and for administration and payment thereof for TMI-2 cleanup.

(2) Enacting its remaining provisions as a further amendment, Subsection 170 (q), of the Price-Anderson Act, as amended (following 42 U.S.C. 2210(p).

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[1] Excluding this $190 million, and $90 million TMI-2 plant insurance remaining for decontamination, under the plan of which these payments are part, TMI's remaining $480 million decontamination cost will be paid: $245 million by TMI's consumers; $45 million by Pennsylvania-New Jersey application of extra State taxes TMI's consumers paid them on its higher replacement power cost; $190 million by Congress for DOE removal of TMI's damaged reactor core and nuclear waste.

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SUSAN M. SHANAMAN
CHAIRMAN

June 11, 1982

The Honorable Robert T. Stafford, Chairman
Senate Committee on Environment and Public Works
United States Senate
5219 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Stafford:

Enclosed please find my replies to the questions forwarded from Senators Simpson and Hart subsequent to my May 20, 1982 testimony before the Committee on Environment and Public Works. Should you have any additional questions or should you desire to discuss my answers in further detail please feel free to contact my office.

Your consideration of my testimony and replies is greatly appreciated.

Sincerely,

SMShanaman

SUSAN M. SHANAMAN
Chairman

SMS/ksb

Enclosure

cc: James Curtiss
Bailey Guard
John Yago

Re: S. 1606, 97th Cong.

PENNA. PUC CHAIRMAN SHANAMAN REPLIES TO SENATOR HART'S QUESTIONS

"1. GPU President William Kuhns said last September that an average 10% rate increase for the three GPU subsidiaries over the next six years would cover the full cost of the cleanup. He added, 'Even if the full burden were laid on the company, the rates of our customers will not be out of line with customers of other companies.'

"Do you agree with that statement? If so, why should non-GPU ratepayers have their rates increased to cover part of the cleanup costs?"

I'm not sure if it's true or not. I have not made a comparative technical analysis of "rates . . . of other companies" because I don't believe that's relevant. Respectfully, I submit that it is not relevant.

The relevant comparative fact is that, since this accident, the rates of GPU's customers have risen 88 and more percent! Other companies' rates have risen, too, but none by such extraordinary magnitude. Because GPU's customers have borne significant rate increases, and because the effect on them of such inordinate increases in such a relatively brief period has been so harsh, a national policy that would impose that full, additional decontamination cost on them, increasing their rates still further, would be too economically cruel to them, as well as inequitable.

It's inequitable because GPU ratepayers were not responsible for this nuclear disaster, in any way, and because Congress, especially the Senate, assured the public -- including Pennsylvania, by name -- that Congress would pay or provide for the cost of a nuclear disaster if one occurred. Congress hasn't, except for your consideration of this measure, enacting other people's offer to pay only a part of this decontamination cost, and not nearly as large a part as GPU's customers will pay.

Further, by Section 9 of this bill, there's no requirement that the part of this decontamination cost that other nuclear utilities pay will operate to increase their customers' rates. Even if it did, any increase to them, over the entire six-year period, could not be significant. And unless their payments do benefit their rates, their ratepayers will pay none of these other nuclear utilities' nuclear decontamination contributions. See my written answers to Senator Simpson's questions. The impact per share of common stock (approximately 3½ billion shares) would be even less.

"2. Assuming this bill is not enacted, when do you envision GPU's next financial crisis occurring? What will be the response of the PUC at that time?"

I don't know. I assume GPU will be filing future rate increase applications, and asserting that it will face financial crises unless we grant them the full amounts requested. I assume our response will be to grant them whatever is necessary to meet any increased system costs of service, excluding TMI-2 decontamination and other costs; costs for which GPU has fully met its burden of proof under State law.

"3. If lack of funds renders GPU unable to proceed with the cleanup of TMI-2, and the NRC finds itself legally obligated to order GPU to take specific actions to protect public health and safety, will you have to include those costs in the rate base? Please provide the basis under State law for your conclusion."

No, respectfully, we will not. Because under our State public utility law, the cost of decontaminating this nuclear wreckage, to protect it from irradiating people -- a cost that Congress made clear the Federal Government would pay or provide for -- is not a cost to be imposed on that nuclear utility's ratepayers. See attachment to our filed testimony, and written response to Senator Mitchell's question.

"4. As I understand it, the Pennsylvania PUC approved a rate increase of $37.5 million per year to finance the cleanup of TMI-2, but stipulated that GPU could not use this money until TMI-1 goes back into operation. What is the basis for linking the availability of rate revenues for cleaning up TMI-2 with the restart of TMI-1? Why should other non-GPU ratepayers have to contribute to the cleanup if you persist in withholding rate revenues from GPU until TMI-1 goes back on line? When do you expect TMI-1 to go back into operation?"

Specifically, Pennsylvania PUC approved a rate settlement offer by GPU, the terms of which we were not free to change. And one of them is that when TMI-1 resumes operation, thereby reducing its replacement power cost now being paid by its consumers, $37.5 million of its rate increase will continue to be collected, but will be applied, instead, to finance GPU consumers' share of the TMI-2 decontamination cost, assigned to them by the Thornburgh cost-sharing plan. That's the linkage between TMI-1 restart and TMI-2 decontamination.

When we accepted that rate settlement, last January, the parties were of the impression that TMI-1 would probably resume operation about last March. That understanding is now mooted by, among other things, the D.C. Court of Appeals' decision requiring the NRC to conduct a psychological assessment of, and, if need be, to prepare an EIS on TMI-1 restart. This delay of its restart throws the intended use of that $37.5 million GPU consumer money for decontamination, beginning say, last March, out of time-phase with the provisions of this bill, intending that other nuclear utilities start contributing for TMI-2 decontamination now, or after its enactment. We can't say when TMI-1 will resume operation. But if this time-phase disordering presents an obstacle to enactment of this bill, it could be amended to say that, pending TMI-1's restart, an amount not exceeding $37.5 million annually paid by GPU ratepayers for amortization of the ($742 million) book capital cost of TMI-2 be applied by GPU, instead, to finance TMI-2 decontamination.

"5. If your public utility commission included all the cost of cleaning up TMI-2 in the rate base, would the resulting rates be comparable to other rates in the region, or elsewhere? If so, why do we need this bill?"

I don't know, for certain, for the reasons given under Question 1 above. But even if they would, respectfully, we need this bill because Congress affirmed that the Federal Government would pay or provide for the cost of decontaminating a nuclear disaster site that, as here, threatens to irradiate people and property off-site, and that the cost of doing so would not be imposed on the consumers of the local nuclear utility.

"6. Under what circumstances do you foresee GPU declaring bankruptcy? What do you see as the consequences for GPU's customers, the TMI-2 cleanup?"

I don't know if GPU would declare bankruptcy. But I can foresee GPU facing bankruptcy, if its regulatory agencies failed to allow it to collect rates necessary to meet its system cost of service, including rate of return on its other system properties sufficient to cover TMI's continuing fixed costs. But I don't foresee that its regulatory agency will so fail. The consequences of bankruptcy for GPU's customers would be to increase their costs for GPU power. The consequences for TMI-2 cleanup could be to delay it, and increase its total cost.

"7. In your prepared testimony you state that utility rates are not comparable. But won't a Colorado, Wyoming, or Vermont ratepayer know whether he or she is paying a higher rate than a GPU ratepayer in Pennsylvania? Doesn't it make sense, before assessing the Wyoming, Colorado, or Vermont ratepayer a fee to help cleanup TMI-2, for GPU rates to at least be as high as the average rate within that part of the country? If not, why not?"

Yes, a ratepayer in these States will know if he or she is paying higher rates, if he or she is, than a GPU ratepayer in Pennsylvania or New Jersey. But, respectfully, if it makes sense to require that GPU's rates be as high as the average nuclear utility rate in those disparate States, before asking their nuclear utilities to contribute to this nuclear decontamination cost, it does in only a limited way. In the full way, it makes sense for nuclear utilities in those disparate States to contribute to remedying this nuclear disaster. Because, by their testimony, or that of their spokesmen, the failure to remedy this nuclear disaster is increasing those nuclear utilities' costs, to their customers; and the remedy, or decontamination, of this nuclear disaster site will operate to reduce those nuclear utilities' costs of service to their customers. Further, you know, by Section 9 of the bill, there is nothing in S. 1606 as revised that requires or insures that the ratepayers of those distant nuclear utilities will pay any of those utilities' contributions for decontamination -- unless those consumers in fact get a benefit as a result of such a contribution! If they don't, those consumers of nuclear utilities in those disparate States that you name, or in any others, will pay none of it.

* * * * *

Dated June 8, 1982

Re: S. 1606, 97th Cong.

PENNA. PUC CHMN. SHANAMAN REPLIES TO SENATOR SIMPSON'S QUESTIONS

"1. S. 1606, as reported by the Senate Energy Committee, contains the following provision: 'Nothing in this Act shall be construed to prescribe the ratemaking treatment, by state regulatory bodies and the Federal Energy Regulatory Commission of payments made pursuant to [this Act].' Does this provision, in your judgment, accord state regulatory bodies, such as the ones that you respectively chair, full discretion in determining how such payments shall be treated in your ratemaking decisions?"

Yes, it does. Historically, to the present, utility regulatory agencies have the power, and duty, to determine whether any utility expenditure or payment can be -- or cannot be -- charged to its consumers. If a payment can be shown to benefit them, directly or indirectly (and is reasonable in amount), it can be charged to them. If it cannot be shown to benefit them, it is charged against the utility's stockholder income account. If it can be shown to benefit both, consumers and stockholders, it can be charged partly to each. The provision, Section 9 of S. 1606, expressly affirms that a regulatory agency's authority over utility payments applies, also, to any nuclear utility payments made pursuant to S. 1606.

"2. How would the payments required under this bill be treated in your ratemaking decisions in the absence of such a provision?"

Absent that provision, our treatment would depend (A) on whether the payment produced a measurable benefit to the utility, and (B) assuming it did, whether it accrued to the ratepayers, or stockholders, or to both.

Outside the context of a specific rate case, it's hard to show how this rule works, because we're only talking about one of many economic factors that affect total utility costs and income, and the TMI payment is comparatively small (extremely so per share of nuclear utility common stock, or per ratepayer).

But consider a simple illustration: Every utility regularly borrows a lot of money, as short-term operating capital, or bonds, even preferred stock; and its interest cost of doing so is a cost-of-service expense, all paid only by its ratepayers. The Committee's hearing record shows that, absent TMI decontamination, nuclear utilities pay higher interest costs, because failure to remedy this public nuclear menace discredits all nuclear utilities. And the record also indicates that remedying this menace makes a nuclear utility a better credit risk, and reduces its borrowing costs.

So as TMI proceeds to get decontaminated, with money paid partly by our nuclear utility, and if -- as a determinable result -- a utility's interest cost declines, say, $10 million annually, that saving accrues directly to its ratepayers. Or if, as a result, the market value of, say, its 25 million common shares rises, say, $1.00 a share, that gain accrues directly to its common stockholders. If both results occur, both gain directly. Depending on which occurs, the regulatory agency, based on its evidence of record, and by its expertise, would assign the cost of the nuclear utility's TMI payment that produced this benefit or benefits to its common stockholders, or ratepayers, or in some ratio to each. If TMI's decontamination results in no such evidentiary benefit -- or any other demonstrable benefit -- to a nuclear utility's ratepayers, the regulatory agency could assign the nuclear utility's TMI payment all to its common stockholders.

"3. As you know, the proposal advanced by Governor Thornburgh last July called for the sharing of cleanup costs by a number of different parties. If, after all of the parties involved have committed to assist in the cleanup, there is a shortfall in the funds necessary to complete the cleanup, either due to the increased cost of cleanup or due to partial commitments by those contributing to the cleanup, would you, as individual members of your respective bodies, be prepared at that point to approve a request for a rate increase sufficient to cover the remaining cleanup costs?"

At that point, no. As shown by our filed testimony, and written response to Senator Mitchell's question: (A) The congressional intent of the Atomic Energy Act, amended to the present, is that the cost of a nuclear disaster, should there be one, as here, will be provided for by the Federal Government, and not by the nuclear utility's ratepayers. (B) During construction of TMI-2, the Senate twice prevented Pennsylvania from enacting legislation to protect its people financially and otherwise against such a nuclear disaster, and twice expressly assured Pennsylvania that Congress would so protect them should there be one. (C) By Pennsylvania public utility law, the cost of radiologically decontaminating the site of this nuclear disaster cannot be imposed on the nuclear utility's ratepayers. (D) It is the considered conclusion of the Comptroller General, Governor Thornburgh, the nuclear electric utility industry, the White House, and others that have analyzed the problem of decontaminating this public nuclear menace, that the extraordinary cost of doing so should be shared by all nuclear and other parties affected by it, named in the Thornburgh cost-sharing plan. As one of those parties named, GPU's customers, or their representatives, by compromise, agreed to pay some of this cost, in exchange for those other parties named agreeing to pay some of it.

Accordingly, should there be any such shortfall, at that point I would be prepared to approve a request that it be met, proportionately or otherwise, by the party or parties named in this cost-sharing plan.

"4. If sufficient funds to complete the cleanup are not generated by the Thornburgh proposal, and if rates are not increased to cover this shortfall, where should the funds come from in your judgment, and how will the progress of cleanup be affected?"

In my judgment, from the Federal Government for reasons at 3(A) above. Failing that, from any ratepayer funds collected for amortization recovery of TMI-2's capital cost pursuant to that rate settlement submitted for our approval, on a take-it-as-is-or-leave-it basis, which we approved January 1982. Failing that, from all nuclear and other parties referred to at 3(D) above.

I cannot now say how that insufficiency, if any, would then affect cleanup progress.

"5. As two of the individuals most closely involved in and familiar with the financial condition of GPU, is it possible that GPU would be able to complete the cleanup of TMI-2 without a cost-sharing program such as the one proposed by Governor Thornburgh?"

No, not unless: (A) future adjudicated rate case orders allow it to continue to collect, by amortization charges against its ratepayers, its capital investment in TMI-2, and (B) the amount so recovered was applied by GPU instead to finance TMI-2 decontamination.

"6. What are the prospects, in your estimation, of a GPU bankruptcy should any or all of the funds contemplated by the Thornburgh proposal not be forthcoming?"

I do not have all information needed to make the expert judgment necessary for an informed answer. Based on what I know, in my estimation the present prospects are slight. Instead of reinvesting and paying out dividends of its net earnings, being made on the rest of its system excluding TMI, GPU is using them to pay its continuing TMI fixed costs. In this way it is paying all of its system costs, including interest and preferred dividend costs, and avoiding bankruptcy. This is not a financially suitable long-term arrangement for GPU's common stockholders who are doing without any dividend payout. And no utility can raise much new money required to maintain, replace or expand its needed public service plant under such an arrangement. But GPU is avoiding bankruptcy under it, and in my estimation it will continue to, as far as we financially can see now. If any or all cleanup funds contemplated under the Thornburgh proposal are not forthcoming, TMI-2 will continue contaminated, as now. In my estimation that is something my Federal Government is duty-bound to prevent, for reasons given by the NRC, and at 3(A) and (B) above.

"7. If this legislation does not go forward, what ratemaking actions are likely in Pennsylvania and New Jersey, and what will be the likely impact on the Three Mile Island cleanup?"

This legislation, S. 1606, enacting other people's offers to pay part of the cleanup cost, proposes a first (faint) response by the Senate: (A) to Congress' affirmed national intent that the Federal Government will pay or provide for the cost of a nuclear disaster, and that its cost will not be imposed on the local nuclear utility's ratepayers; and (B) to its expressed assurances, twice made to Pennsylvania, by name, that should its people be exposed to a nuclear disaster, that Congress will act to protect them financially and otherwise against it. Such a nuclear disaster occurred in Pennsylvania. And, according to the NRC, decontamination of its site is increasingly imperative, to prevent its possible radiation to people off-site -- and triggering payout of up to $560 million of other people's money, and possibly more Federal money, as well. By Pennsylvania public utility law, the cost of decontaminating this nuclear site to preclude its irradiation of people (nearly all of them not that nuclear utility's ratepayers) cannot be imposed on that nuclear utility's ratepayers.

If this legislation does not go forward -- and Congress does not enact new legislation, repudiating its previously affirmed national responsibility to pay or provide for eliminating this nuclear menace, and superseding our State public utility law, and forcing our local ratepayers to pay to eliminate it -- the likely impact may prevent decontamination from going forward. Second, the ratemaking action likely in Pennsylvania, on any renewed application to charge those local ratepayers that cost, is, as before: (A) to repeat that Pennsylvania public utility law prevents charging nuclear disaster decontamination costs to consumers, that by Congressional intent this is a cost the Federal Government affirmed it will pay or provide for; and (B) to submit a copy of that ratemaking action to Congress.

"8. If this bill were to include a requirement that customer rates in the GPU service area be increased to a level comparable to those in surrounding areas, what, in your view, would be an equitable formula for making that determination?"

The reason for decontaminating this poisonous reactor, specially licensed by the Federal Government, is to prevent it from irradiating United States citizens and their property downwind or downstream of it. When Congress launched its commercial nuclear program, involving use of this extraordinary dangerous fuel, it assured the public that the Federal Government would pay or provide for the cost of protecting them against being irradiated by it.

If, now, after a utility nuclear disaster threatening irradiation, Congress enacts a law making that utilit, s innocent customers -- who were not responsible for it -- pay the cost of preventing it from irradiating other U.S. citizens, that is absolutely inequitable.

No formula making them pay it until their rates rise to any higher level paid in surrounding areas can make it equitable. A formula making equally innocent ratepayers of other nuclear utilities with lower rates in surrounding areas pay it, until theirs rise to GPU's level, would be as equitable as the suggested formula or standard!

Electric utility rates are set pursuant to State and Federal laws that produce different "just and reasonable" rates for different utilities, and prohibit setting rates for one based on rates charged by another.

We're talking about one of the costs of a national nuclear program Congress launched, and should have provided for in its Price-Anderson Act manner, but which Congress affirmed the Federal Government nonetheless would pay or provide for. If Congress would now seek to evade its affirmed responsibility, Congress, of course, may do so. But if it should, Congress should not use the fact that State regulatory mechanisms properly produce different "just and reasonable rates" for different utilities.

"9. What are your respective views concerning the nature and magnitude of the health and safety risk posed by TMI-2 reactor in its current condition? Are these health and safety concerns, in your view, immediate in nature?"

I do not have the expertise needed to address these points. My views on them, based on the NRC that does have it, are, in the words of its March 22, 1982 letter to you: (A) "the cleanup of TMI-2 must be accelerated"; (B) there is "increasing concern" over its "potential for slow degradation of containment integrity and equipment capacity," and over "an unexpected release of radioactive material" from it; (C) "it is time for the Federal Government to take a more aggressive role" to decontaminate TMI-2.

"10. On may 5 of last year, you stated that 'Pennsylvania consumers should bear no greater share of this accident's cleanup than consumers of all other nuclear electric systems will bear.' To what extent, if any, does this position reflect the relative benefits that would accrue from cleanup of TMI-2 to GPU customers and customers of other nuclear utilities?"

Benefits of TMI-2 cleanup to GPU customers will be relatively the same as its benefits to other nuclear utilities' customers. GPU customers are grievously affected financially by the high costs they are paying for TMI replacement power, and to amortize TMI-2's capital cost. But decontaminating TMI-2's wreckage does not eliminate any of those costs; does not restore it for their service; and most of the people downwind and downstream from TMI-2, for whose protection it has to be decontaminated, are not GPU customers. So the benefits of its decontamination, of remedying this public nuclear menace, will be essentially the same to GPU's as to other nuclear utilities' customers. As shown by the Committee record, page 1 above, it will lower nuclear utilities', including GPU's, financing costs that their customers have to pay. The reduction may be proportionately larger for GPU customers, but so is the proportion of the cleanup cost they pay, under this cost-sharing plan of which S. 1606 is a part.

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Dated June 8, 1982

UNITED STATES SENATE
ENVIRONMENT AND PUBLIC WORKS COMMITTEE
MAY 4, 1982

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PREPARED COMMENTS ON S. 1606

BARBARA A. CURRAN
PRESIDENT
NEW JERSEY BOARD OF PUBLIC UTILITIES

I. INTRODUCTION

ON BEHALF OF THE NEW JERSEY BOARD OF PUBLIC UTILITIES, I WELCOME THIS OPPORTUNITY TO PRESENT THE BOARD'S GENERAL VIEW ON THE NEED FOR THE EQUITABLE SHARING OF THE COSTS ASSOCIATED WITH THE DECONTAMINATION OF TMI-2 AND, SPECIFICALLY, ON THE PROPOSED LEGISLATION, S. 1606, OF SENATORS HEINZ AND BRADLEY. OUR UNPRECEDENTED INVOLVEMENT IN THIS PROBLEM ARISES FROM OUR REGULATION OF JERSEY CENTRAL POWER AND LIGHT COMPANY, TWENTY-FIVE PERCENT OWNERS OF TMI-1 AND TMI-2.

I AM HOPEFUL THAT THESE HEARINGS WILL ACCELERATE THE THOUGHTFUL DISCUSSIONS OF THE PROBLEMS FACED BY THE 1.6 MILLION CUSTOMERS OF THE GPU OPERATING COMPANIES; THE UNCERTAINTIES ASSOCIATED WITH THE SUBSTANTIAL SLIPPAGE IN TMI-2 DECONTAMINATION; AND THE ONGOING FINANCIAL PENALTY BEING IMPOSED ON ALL RATEPAYERS AS A RESULT OF A FAILURE TO RESOLVE THE OVERALL TMI PROBLEMS.

THE ULTIMATE GOALS WE SEEK ARE CLEAR:

(1) EXPEDITIOUS DECONTAMINATION OF TMI-2.

(2) EXPEDITIOUS RETURN TO PRODUCTIVE SERVICE OF TMI-1.

(3) EQUITABLE SHARING OF THE TOTAL COSTS ASSOCIATED WITH THE TMI-2 DECONTAMINATION.

BY ACCOMPLISHING THESE GOALS, THE PARTICIPANTS IN THE SHARING STRATEGY WILL FORCEFULLY ESTABLISH THE ABILITY OF THE REGULATORY AND GOVERNMENTAL SYSTEMS TO DEAL WITH THE COMPLEX PROBLEMS ARISING OUT OF THE INCIDENT AT TMI.

II. NEW JERSEY REGULATORY RESPONSE TO TMI

IMMEDIATELY AFTER THE INCIDENT AT TMI, THE BOARD BEGAN TO DEVELOP ITS OVERALL SHARING APPROACH TO DEAL WITH THE FINANCIAL AFTERMATH OF THE INCIDENT. THE BOARD HAS ARTICULATED THIS SHARING STRATEGY IN A VARIETY OF FORUMS.[1] FURTHER, THE BOARD HAS ISSUED NUMEROUS ORDERS COVERING RATE INCREASES FINANCINGS, AND SALES OF PROPERTY WHICH EMBODY THIS SHARING PHILOSOPHY.[2]

THE LOGIC OF SHARING IS COMPELLING. BASED ON THE FINDINGS OF THE MAJOR STUDIES OF THE INCIDENT, THE BOARD BELIEVES THAT THE INCIDENT OCCURRED AS A RESULT OF COMPLICATED INSTITUTIONAL WEAKNESSES IN THE PUBLIC AND PRIVATE SECTORS.[3] IT IS VIRTUALLY IMPOSSIBLE TO ADOPT A "DEVIL THEORY" TO EXPLAIN THE CAUSE OF THE INCIDENT. GIVEN THIS INSEPARABILITY OF RESPONSIBILITY FOR THE INCIDENT, IT FOLLOWS THAT EQUITABLE SHARING MUST BE THE FOCAL POINT OF THE RECOVERY STRATEGY.

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[1] A PARTIAL LIST OF THESE APPEARANCES IS SET FORTH IN TABLE 1 OF THE APPENDIX.

[2] A LIST OF THESE REGULATORY ACTIONS IS SET FORTH IN TABLE 2 OF THE APPENDIX. A SYNOPSIS OF THE NEW JERSEY REGULATORY RESPONSE IS SET FORTH IN TABLE 3 IN THE FORM OF AN ARTICLE PUBLISHED IN THE PUBLIC UTILITIES FORTNIGHTLY.*

[3] SEE THE ACCIDENT AT THREE MILE ISLAND, THE NEED FOR CHANGE: THE LEGACY OF TMI; REPORT OF THE PRESIDENT'S COMMISSION; AND THREE MILE ISLAND, REPORT TO THE NRC COMMISSION AND THE PUBLIC.

* Table 3 has been retained in the committee files.

SINCE THE INCIDENT AT TMI, THE BOARD HAS GRANTED $433 MILLION OF ADDITIONAL REVENUES TO JCP&L. THIS AMOUNTS TO A 72 PERCENT INCREASE OVER MARCH, 1979 RATES. THE BOARD NOW HAS PENDING BEFORE IT REQUESTS FOR $242 MILLION TO ADDRESS ATTRITION ISSUES, SUPPORT THE RETURN ON TMI-1 WHEN IT RETURNS TO SERVICE AND, FOR THE FIRST TIME, A REQUEST TO ADDRESS THE COSTS OF TMI-2 DECONTAMINATION AND RATE RECOGNITION OF THE TMI-2 INVESTMENT.

RECENTLY, THE BOARD APPROVED A REQUEST TO IMPOSE A SURCHARGE OVER THE NEXT FIVE YEARS TO RAISE $100 MILLION TO PARTIALLY FINANCE THE PROPOSED 1000MW ONTARIO HYDRO INTERCONNECTION. THE PENDING ACTIONS WILL PLAY A ROLE IN THE RECOVERY PROCESS AND HAVE THE PROSPECT OF IMPROVING THE ABILITY OF THE COMPANY TO MEET ITS STATUTORY REQUIREMENT TO PROVIDE SAFE, ADEQUATE, AND PROPER SERVICE TO ITS 700,000 CUSTOMERS. WE ARE CONFIDENT THAT HEINZ/BRADLEY LEGISLATION IN CONJUNCTION WITH GOVERNOR THORNBURGH'S SHARING PROPOSAL WILL PROVIDE A VITAL PIECE OF THE TMI PUZZLE.

III. SHARING PROPOSALS

THE BOARD HAS CLOSELY MONITORED AND EVALUATED THE VARIOUS SHARING PROPOSALS DEVELOPED IN RESPONSE TO THE INCIDENT AT TMI.[4] I WOULD LIKE TO TAKE THIS OPPORTUNITY TO EXPRESS THE BOARD'S APPRECIATION TO THE NUMEROUS SPONSORS WHO HAVE DEVOTED SUBSTANTIAL TIME AND ENERGIES PURSUING A SHARING STRATEGY CONSISTENT WITH THE BROAD PUBLIC INTERESTS INTERTWINED IN THE TMI PROBLEM.

THE BOARD HAS CAREFULLY EVALUATED THE CONCEPTS AND RECOMMENDATIONS SET FORTH IN THE HEINZ/BRADLEY LEGISLATION AS IT RELATES TO THE JULY 9, 1981 PLAN OF GOVERNOR RICHARD THORNBURGH OF PENNSYLVANIA. BASED ON THIS EVALUATION, IT IS OUR CONCLUSION THAT THE LEGISLATION PROVIDES A SIGNIFICANT OPPORTUNITY TO RESOLVE MANY OF THE ISSUES RELATING TO TMI. THE FOUNDATION OF THE LEGISLATION AND THE THORNBURGH PLAN IS THE EQUITABLE SHARING OF THE COSTS OF DECONTAMINATION. THIS IS DEMONSTRABLY CONSISTENT WITH OUR VIEW OF THE PROBLEM!

THE THORNBURGH PLAN CORRECTLY IDENTIFIES THE MAJOR PARTICIPANTS IN THE EQUITABLE SHARING OF TMI-2 DECONTAMINATION COSTS AND DEVELOPS REASONABLE GUIDELINES FOR ALLOCATING THESE COSTS. IN RESPONSE TO THE GOVERNOR'S PLAN, KEY PARTICIPANTS HAVE INDICATED THEIR COMMITMENT TO THE IMPLEMENTATION OF THE PLAN AND THE ASSUMPTION OF

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[4] IN TABLE 4 A LIST OF THE PROPOSALS IS SET FORTH.

THEIR EQUITABLE SHARE OF THE COSTS. FIRST, THE FEDERAL GOVERNMENT HAS COMMITTED TO PROVIDING SUBSTANTIAL TECHNICAL ASSISTANCE TO THE PROJECT AND $120 MILLION IN ASSISTANCE. SECOND, THE EDISON ELECTRIC INSTITUTE HAS ISSUED ITS PLAN TO PARTICIPATE IN THE RECOVERY EFFORTS AND INDICATED ITS WILLINGNESS TO SUPPORT THESE EFFORTS WITH $192 MILLION TO BE COLLECTED FROM ITS MEMBERS. IN THIS REGARD, IT IS CRITICAL TO FIRM UP THIS COMMITMENT WITH THE PROPOSED LEGISLATION. IT IS CLEAR FROM THE RECENT PRONOUNCEMENTS OF THE BANKING GROUP THAT THEY SUPPORT THE NEED FOR THE INDUSTRY TO STAND UP TO THEIR LONG-RUN RESPONSIBILITIES. THIRD, THE RECENT ACTIONS OF THE PENNSYLVANIA PUBLIC UTILITY COMMISSION RECOGNIZE THE APPROPRIATENESS OF MET-ED AND PENELEC CUSTOMERS SHARING IN THE TMI-2 DECONTAMINATION. OUR FELLOW COMMISSIONERS IN PENNSYLVANIA HAVE TAKEN THIS VERY DIFFICULT ACTION IN RESPONSE TO THEIR VIEW OF THE NEED TO GET THE JOB DONE NOW.

THE NEW JERSEY BOARD NOW HAS BEFORE IT A REQUEST TO ASSESS CLEANUP COSTS ON THE CUSTOMERS OF JCP&L. THE REQUEST WILL BE AMENDED TO REFLECT THE PARTICIPATION OF THE NOTED PARTIES AND IS ESTIMATED AT $14 MILLION OF ADDITIONAL REVENUES FOR EACH OF THE NEXT FIVE YEARS. GIVEN THE CONSENSUS JUDGMENT IN SUPPORT OF SHARING AND THE COMMITMENTS OF THE NOTED PARTICIPANTS, THE BOARD WILL SUPPORT AN APPROPRIATE SHARING OF TMI-2 DECONTAMINATION

COSTS BY JCP&L RATEPAYERS AND HAS BEEN WORKING WITH THE NEW ADMINISTRATION AND OUR LEGISLATURE TO DEVELOP THE STATE PARTICIPATION NEEDED. GOVERNOR KEAN HAS ESTABLISHED A SERIES OF MEETINGS WITH GOVERNOR THORNBURGH'S STAFF AND THIS LEADERSHIP HAS BEEN KEY TO THE UNANIMOUS SUPPORT OF THE NEW JERSEY DEPARTMENT OF ENERGY AND THE NEW JERSEY PUBLIC ADVOCATE AS WELL AS OUR BOARD. THE LEVEL OF SHARING AND THE MECHANISM FOR IMPLEMENTING TMI-2 CLEANUP ASSESSMENTS ARE NOW THE SUBJECT OF BOARD HEARINGS. WE INTEND TO CAREFULLY CONSIDER AN APPROPRIATE OVERALL RESPONSE TO THE PENDING RATE REQUESTS.

IV. CONCLUSION

WE ARE OPTIMISTIC THAT THE HEINZ/BRADLEY LEGISLATION, THE THORNBURGH PLAN, AND THE INITIATIVES OF GPU IN PENNSYLVANIA AND NEW JERSEY WILL ULTIMATELY RESULT IN THE REDUCTION OF THE GRAVE UNCERTAINTIES FACING ELECTRIC RATEPAYERS IN NEW JERSEY AND PENNSYLVANIA AND LEAD TO A COMPLETE RESOLUTION OF THE HEALTH AND SAFETY CONCERNS RELATED TO THE DECONTAMINATION OF TMI-2. FINALLY, IMPLEMENTATION OF THIS SHARING STRATEGY WILL REMOVE THE ONGOING FINANCIAL PENALTY NOW BEING IMPOSED ON ELECTRIC RATEPAYERS ACROSS THE COUNTRY AS A RESULT OF THE UNRESOLVED NATURE OF THE TMI PROBLEMS.

APPENDIX

Table 1

New Jersey Board of Public Utilities TMI Related Appearances in Support of Sharing

Date	Group, Committee
May 6, 1980	New Jersey Governor Brendan T. Byrne
May 20, 1980	New Jersey State Legislature
June 18, 1980	New York Society of Security Analysts
June 26, 1980	New Jersey Congressional Delegation
September 30, 1980	New Jersey and Pennsylvania Congressional Delegations and Pennsylvania Public Utility Commission
May 1, 1981	Subcommittee on Energy Conservation and Power
May 5, 1981	Subcommittee on Energy and the Environment
December 14, 1981	New Jersey Senate Energy and Environment Committee
March 18, 1982	New Jersey Assembly Energy and Natural Resources Committee - Investigation of Jersey Central Power & Light Company

Table 2

NJBPU
JCP&L
Regulatory Actions: LEAC

Docket	Request	Action
795-427	May 4, 1979; to be effective June 1, 1979 new LEAC factor of 9.375 mills per KwH, increase annual revenues $113 million.	June 18, 1979. TMI-2 removed from base rates (reduce base rates $29 million). New LEAC factor of 6.275 mills per KwH to recover $98 million over 18 months or $74.5 million over 12 months. Prohibit JCP&L dividend to GPU. Need for management audit.
797-643	July 20, 1979; to be effective September 1, 1979 an increase of 7.683 mills per KwH in LEAC, increase in annual revenues of $98.8 million.	September 5, 1979. Effective September 6, 1979 an increase of 5.557 mills per KwH in LEAC, increase in annual revenues of $70 million.
801-45 (Phase I)	January 21, 1980; to be effective March 1, 1980 increase of 10.993 mills per KwH for an increase of $142 million ($105 Non-TMI, $37 TMI related).	March 6, 1980. (Phase I: non-TMI energy costs). Increase of $84.5 million based on new LEAC of 13.119.
801-45 (Phase II)	January 21, 1980 (Same as above TMI portion)	April 1, 1980 (Phase II: TMI). Increase of $34.2 million based on increase of 3.313 mills per KwH.
795-427 (Phase II)	January 21, 1980 Retain TMI-1 in base rates.	April 1, 1980 (Phase II: TMI-1). Remove TMI-1 from base rates ($17 million decrease) increase amortization of fuel $51.4 to yield equivalent cash flow.
807-488	July 21, 1980; to be effective September 1, 1980 - increase of 6.264 mills per KwH in LEAC ($77.8 million).	Hearings completed September 3, 1980; Decision on October 2, 1980 extending existing LEAC for a period of six months.
811-25	January 16, 1981; to be effective March 1, 1981 - increase of $104.6 million in LEAC.	April 23, 1981 Increase of $85.1 million to be recovered through February 28, 1982.

Table 2 (cont'd)

NJBPU
JCP&L
Regulatory Actions: Base Rates

Docket	Request	Action
804-205	April 29, 1980: Request increase in retail rates of $173.5 million, $60 million on interim.	May 13, 1980 Board increased base rates $60 million effective for services rendered May 15, 1980.
"	October 1, 1980: Hearings commenced on the main case.	Record closed on February 27, 1981; On July 31, 1981 Board approved $110.7 million in Base Rates effective July 31, 1981
818-726	August 11, 1981: Request increase in Retail Rates of $238.5 million. Includes decontamination of TMI-2, return to Rate Base of TMI-1 and TMI-2.	Hearings in progress.
8111-952	November 18, 1981: Request 1.5 mill/kwh for Ontario Hydro Project. (Approximately $20 million for 5 years = $100 m contribution)	March 4, 1982 Approved formation of subsidiary TIECO and the increase in customer rates necessary to raise $100M.

Table 2 (cont'd)
NJBPU
JCP&L
Regulatory Actions: Financial

Docket	Request	Action
793-295	March 29, 1979 (Amended June 8, 1979) Authority to execute and deliver a Thirty-fourth Supplemental Indenture and to issue and sell thereunder up to $75,000,000 First Mortgage Bonds, 1999 Series by private placement.	June 25, 1979 Board authorizes execution of supplemental indenture and issuance and sale of bonds. $50,000,000.
795-487	May 18, 1979 (Amended May 21, 1979) Authority to Pledge Certain Assets as Security for Loan of $30,000,000.	May 21, 1979 Board authorizes JCP&L to pledge and grant security interest in certain uranium.
795-508	May 25, 1979 (Amended June 11 and June 14, 1979) Authority to issue, sell and renew up to $189,000,000 of Promissory Notes; issue, sell or pledge up to $100,000,000 First Mortgage Bonds due July 1, 1986. (Revolving Credit Agreement).	June 18, 1979 Board authorizes RCA, $189 million of promissory notes, up to $50,000,000 First Mortgage (11% Series Due 10/1/81).
799-741	September 5, 1979 (Amended September 26, 1979) Authority to issue up to $47,500,000 of First Mortgage Bonds, 11-5/8% Series due October, 1999.	October 17, 1979 Board grants authority to sell Bonds.
795-427 (803-172)	March 11, 1980 Request to transfer its interest in Unit 7 of Seward Generating Station. ($5.3 million).	May 13, 1980 Dismissed without prejudice.
795-508	April 14, 1980 Request to pledge accounts receivable for security of $60,000,000 line of credit under RCA.	May 13, 1980 Dismissed without prejudice.
795-508	August 1, 1980 Request to execute amendments to RCA; increasing borrowing limit to $160 million until October 1, 1980.	August 13, 1980 Board grants authority to amend.
808-516	August 1, 1980 Request to sell up to 550,000 lbs. of uranium concentrate to various purchasers; proceeds to reduce its outstanding debt under RCA.	August 27, 1980 Board grants authority for sale.

Table 2 (cont'd)

NJBPU
JCP&L
Regulatory Actions: Financial (Cont'd.)

Docket	Request	Action
808-589	September 3, 1980 Request for approval of an agreement, entered into with affiliates, relating to maintenance of certain equipment pursuant to N.J.S.A. 48:3-7.1	November 26, 1980 Board dismisses petition.
8012-905	December 11, 1980 Request for approval of the sale of a Knoll Tower Crane for $1,000,000	December 24, 1980 Board grants authority for sale
813-129	March 10, 1981 Request for approval of sale of 25% interest in turbine generator for $1,305,711	June 24, 1981 Board grants authority for sale
813-157	March 23, 1981 Request for approval of sale of undivided interest in nuclear fuel assemblies for $1,498,068	April 30, 1981 Board grants authority for sale
814-416	April 22, 1981 Request for approval of the sale of approximately 6600 tons of structural steel for $862,000	May 7, 1981 Board grants authority for sale.
795-508	May 25, 1979 (Amended July 21, 1980) Request to increase by $150,000 amount paid annually for administrating Credit Agreement and adding "or earnings" to Section 3.02(b) and 8.06(b) of Revolving Credit Agreement.	July 23, 1981 Board authorized request.
817-570	July 8, 1981 Request for approval of sale of overhead crane for $160,000.	July 23, 1981 Board grants authority for sale.
817-569	July 8, 1981 Request for approval of the sale of approximately 140 tons of structural steel for $55,350.	August 26, 1981 Board grants authority for sale.
817-572	July 8, 1981 Request for approval of sale of approximately 260 tons of structural steel for $20,462.50.	August 26, 1981 Board approves sale
818-717	August 6, 1981 Request to assign uranium enrichment services related to Forked River Unit-I and TMI-I (11.1 million)	August 26, 1981 Board approves assignment.

Table 2 (cont'd)

NJBPU
JCP&L
Regulatory Actions: Financial (Cont'd.)

Docket	Request	Action
818-718	August 6, 1981 Assignment of uranium enrichment services related to Forked River Unit-I. (32.1 million)	August 26, 1981 Board approves assignment
817-571	July 8, 1981 Request for approval of the sale of approximately 1100 tons of structural steel for $196,000.	August 26, 1981 Board approves sale
818-709	August 3, 1981 Request for approval of sale of approximately 4600 tons of structural steel for $428,972.28	September 11, 1981 Board approves sale.
818-742 (795-508)	August 20, 1981 Authority to execute a restated & revised RCA for issuance of up to $125,000,000 promissory notes and to pledge and grant security interest in its interest in uranium concentrates.	September 11, 1981 Board authorizes revised RCA and the pledge of security interests.
819-767	August 6, 1981 Request for approval of sale of approximately 311,116 lbs. of uranium concentrates for 7.1 million.	October 14, 1981 Board approves sale
819-826	September 28, 1981 Request for approval of sale of approximately 308 tons of steel for $44,352.00	November 9, 1981 Board approves sale.
819-827	September 28, 1981 Request for approval of sale of approximately 100 tons of steel for $7,750.00	November 9, 1981 Board approves sale
819-828	September 28, 1981 Request for approval of sale of approximately 91 tons of steel for $8,250.00	November 9, 1981 Board approves sale.

Table 2 (cont'd)

JERSEY CENTRAL POWER & LIGHT COMPANY
SUMMARY OF POST-ACCIDENT RETAIL RATE CHANGES THROUGH JULY, 1981

($ Millions)

	Total Increases Granted	TMI Related	Non-TMI Related
July, 1979			
Base Rates (TMI-2)	$(29)	$(29)	$ -
Energy Clause	74	74	-
Total	$ 45	$ 45	$ -
September, 1979			
Base Rates	$ -	$ -	$ -
Energy Clause	70	-	70
Total	$ 70	$ -	$ 70
March, 1980			
Base Rates(1)	$ (1)	$ -	$ (1)
Energy Clause	85	-	85
Total	$ 84	$ -	$ 84
April, 1980			
Base Rates(2)	$ -	$(18)	$ 18
Energy Clause	34	34	-
Total	$ 34	$ 16	$ 18
May, 1980			
Base Rates	$ 60	$ -	$ 60
Energy Clause	-	-	-
Total	$ 60	$ -	$ 60
April, 1981			
Base Rates	$ -	$ -	$ -
Energy Clause	85	5	80
Total	$ 85	$ 5	$ 80
July, 1981			
Base Rates	$ 49	$ -	$ 49
Energy Clause	-	-	-
Total	$ 49	$ -	$ 49
Total	$427	$ 66	$361
% TMI/Non-TMI	100%	15%	85%
% Increase Over March, 1979 Rates	71%	11%	60%

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(1) Change in revenue tax rate.

(2) Deferred energy cost amortization increased by an amount equivalent to TMI-1 revenue requirements ($18 million per year).

Table 2 (cont'd)

JERSEY CENTRAL POWER & LIGHT COMPANY
SUMMARY OF PENDING RETAIL RATE CHANGES, IF GRANTED IN FULL

($ Millions)

	Total Increases Pending	TMI Related	Non-TMI Related
Post-Accident Retail Rate Changes in Effect, Through July, 1981			
Total	$427	$ 66	$361
% TMI/Non-TMI	100%	15%	85%
% Increase Over March, 1979 Rates	71%	11%	60%
August, 1981 Filing			
Base Rates	$214	$ 96	$118
"Old" Deferred Energy Surcharge	(21)	-	(21)
Energy Clause	(60)	(60)	-
Total(1)	$133	$ 36	$ 97
November, 1981 (Ont-Hydro) Filing			
Base Rates	$ 20	$ -	$ 20
Energy Clause	-	-	-
Total	$ 20	$ -	$ 20
January, 1982 Filing			
Base Rates	$ -	$ -	$ -
Energy Clause	97	60	37
Total	$ 97	$ 60	$ 37
Total	$677	$162	$515
% TMI/Non-TMI	100%	24%	76%
% Increase Over March, 1979 Rates	113%	27%	86%

(1) Reflects base rate request reduced to an amount compatible with the Thornburgh plan for a shared TMI decontamination funding program, the expiration of the "old" deferred energy surcharge to base rates and the anticipated energy savings related to the projected TMI-1 generation.

Table 4

New Jersey Board of Public Utilities
TMI Sharing Proposals

Sponsor(s)	Proposal
Senator Heinz (Pa) and Senator Bradley (NJ)	S. 1606: Legislation to establish supplemental nuclear insurance coverage and fund certain recommended actions at TMI.
Governor Richard Thornburgh (Pa)	Comprehensive sharing of TMI-2 decontamination costs by affected utilities, Federal Government, New Jersey and Pennsylvania, electric industry.
Senator Specter (Pa)	S. 1226: Legislation to amend nuclear insurance and provide industry payments for cleanup.
Congressman Ertel (Pa)	H.R.5963: Additional insurance and other financing for the decontamination of nuclear power plants following accidents.
Congressman Hughes (NJ)	H.R.1814: Extend provisions of Price-Anderson Act to excess energy costs following closure of nuclear power plant.
Congressman Howard (NJ)	H.R. 3019: Tax credits for increase in electricity prices related to shutdown of nuclear power plant.
Mr. Bruce Babbitt	Report of the Nuclear Safety Oversight Committee: Federal Subsidies and Loans.

STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

BARBARA A. CURRAN
PRESIDENT

1100 RAYMOND BLVD.
NEWARK, N.J. 07102
201-648-2027

June 11, 1982

Mr. James Curtiss
Assistant Counsel
United States Senate
Committee on Environment and Public Works
4204 Dirksen
Washington D.C. 2051

Dear Mr. Curtiss,

Enclosed are the responses to questions posed by the members of the United States Senate Committee on Environment and Public Works which you requested by letter dated May 25, 1982.

I realize that the Committee was anticipating the responses prior to June 4, 1982 and I apologize for the unavoidable delay.

Sincerely,

Barbara A Curran

Barbara A. Curran
President

BAC/fp

QUESTIONS FOR PANEL I

BARBARA CURRAN, NEW JERSEY BOARD OF PUBLIC UTILITIES

1. S. 1606, AS REPORTED BY THE SENATE ENERGY COMMITTEE, CONTAINS THE FOLLOWING PROVISION: "NOTHING IN THIS ACT SHALL BE CONSTRUED TO PRESCRIBE THE RATEMAKING TREATMENT, BY STATE REGULATORY BODIES AND THE FEDERAL ENERGY REGULATORY COMMISSION OF PAYMENTS MADE PURSUANT TO [THIS ACT]." DOES THIS PROVISION, IN YOUR JUDGMENT, ACCORD STATE REGULATORY BODIES, SUCH AS THE ONES THAT YOU RESPECTIVELY CHAIR, FULL DISCRETION IN DETERMINING HOW SUCH PAYMENTS SHALL BE TREATED IN YOUR RATEMAKING DECISIONS?

2. HOW WOULD THE PAYMENTS REQUIRED UNDER THIS BILL BE TREATED IN YOUR RATE-MAKING DECISIONS IN THE ABSENCE OF SUCH A PROVISION?

3. AS YOU KNOW, THE PROPOSAL ADVANCED BY GOVERNOR THORNBURGH LAST JULY CALLED FOR THE SHARING OF CLEANUP COSTS BY A NUMBER OF DIFFERENT PARTIES. IF, AFTER ALL OF THE PARTIES INVOLVED HAVE COMMITTED TO ASSIST IN THE CLEANUP, THERE IS A SHORTFALL IN THE FUNDS NECESSARY TO COMPLETE THE CLEANUP, EITHER DUE TO THE INCREASED COST OF CLEANUP OR DUE TO PARTIAL COMMITMENTS BY THOSE

CONTRIBUTING TO THE CLEANUP, WOULD YOU, AS INDIVIDUAL MEMBERS OF YOUR RESPECTIVE BODIES, BE PREPARED AT THAT POINT TO APPROVE A REQUEST FOR A RATE INCREASE SUFFICIENT TO COVER THE REMAINING CLEANUP COSTS?

4. IF SUFFICIENT FUNDS TO COMPLETE THE CLEANUP ARE NOT GENERATED BY THE THORNBURGH PROPOSAL, AND IF RATES ARE NOT INCREASED TO COVER THE SHORTFALL, WHERE SHOULD THE FUNDS COME FROM IN YOUR JUDGMENT, AND HOW WILL THE PROGRESS OF CLEANUP BE AFFECTED?

5. AS TWO OF THE INDIVIDUALS MOST CLOSELY INVOLVED IN AND FAMILIAR WITH THE FINANCIAL CONDITION OF GPU, IS IT POSSIBLE THAT GPU WOULD BE ABLE TO COMPLETE THE CLEANUP OF TMI-2 WITHOUT A COST-SHARING PROGRAM SUCH AS THE ONE PROPOSED BY GOVERNOR THORNBURGH?

6. WHAT ARE THE PROSPECTS, IN YOUR ESTIMATION, OF A GPU BANKRUPTCY SHOULD ANY OR ALL OF THE FUNDS CONTEMPLATED BY THE THORNBURGH PROPOSAL NOT BE FORTHCOMING?

7. IF THIS LEGISLATION DOES NOT GO FORWARD, WHAT RATEMAKING ACTIONS ARE LIKELY IN PENNSYLVANIA AND NEW JERSEY, AND WHAT WILL BE THE LIKELY IMPACT ON THE THREE MILE ISLAND CLEANUP?

1. IF THIS BILL WERE TO INCLUDE A REQUIREMENT THAT CUSTOMER RATES IN THE GPU SERVICE AREA BE INCREASED TO A LEVEL COMPARABLE TO THOSE IN SURROUNDING AREAS, WHAT, IN YOUR VIEW, WOULD BE AN EQUITABLE FORMULA FOR MAKING THAT DETERMINATION?

2. WHAT ARE YOUR RESPECTIVE VIEWS CONCERNING THE NATURE AND MAGNITUDE OF THE HEALTH AND SAFETY RISK POSED BY THE TMI-2 REACTOR IN ITS CURRENT CONDITION? ARE THESE HEALTH AND SAFETY CONCERNS, IN YOUR VIEW, IMMEDIATE IN NATURE?

STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

BARBARA A. CURRAN
PRESIDENT

1100 RAYMOND BLVD.
NEWARK, N.J. 07102
201-648-2027

Re: Responses to questions raised
by Senator Simpson (Wyoming)
on TMI cost-sharing proposal

I have set forth below my comments on the questions raised by Senator Simpson (Wyoming) on the TMI cost-sharing proposal.

1. Yes. However, as noted in the attached article, it may have the effect of severely limiting EEI support for the legislation. This is not a new position of EEI. In March, when the amendment first surfaced, EEI indicated its concern over litigation in each state jurisdiction. I believe that without such flexibility provided for the states that passage would be extremely difficult.

2. I would agree that absent a mandatory pass-through to ratepayers, the Board would have to hear evidence on the issue, impact on ratepayers, and the prospective benefits from participation.

3. Full funding of the cleanup will be difficult to achieve at the outset of the sharing program. This should not be viewed as a fatal defect! In the event that the costs of restoring the unit to a safe condition exceed commitments, it is certainly reasonable that the GPU companies go to their respective commissions and discuss completion funding. Absent a Government takeover and the abrogation of NRC-imposed responsibilities, GPU/successor will be required to fund the cleanup with or without the help of other affected entities.

4. In the event of a shortfall, the Federal Government and GPU have moral and legal obligations to assure the health and safety of its citizens and customers. There is no choice but for GPU/Feds to declare that the TMI-2 unit must be decontaminated. It is not a political question. The Federal Government should act as a guarantor for the cleanup funding. If it can guarantee securities for less vital projects it can certainly step up and take the absolute leadership role necessary to do the job.

5. To the extent that expenditures on cleanup are not the basis of earnings generation, the system has little ability to generate excess funds for the cleanup. That is, absent some changes in the level of non-earning assets, the companies cannot do the job.

All security options are dead and Bank credit will not be forthcoming to fund the cleanup. Banks require pay-back. There is insufficient expectation that such a refunding is possible.

6. The prospects of bankruptcy continue to exist as long as permanent financing options are foreclosed to the company. To the extend that TMI-2 is not resolved, the only existing source of capital, the Banks, will be jeopardized. The longer the company operates hand-to-mouth, the more certain their vulnerability to bankruptcy. It should be noted that the size of the short-fall is critical. Bankruptcy is an afterthought. Everyone should be committing to cleanup now, and, subsequently, everyone can examine the issues of the continued desirability of GPU's corporate existence.

7. It is virtually impossible to generate, from GPU companies, the level of cleanup revenues consistent with an expeditious effort at the Island. Both the costs and health hazards would increase as a result of sub-optimal cleanup efforts. The impact is obvious: further deterioration of TMI-2, increased cleanup costs, and continued divisiveness in the overall process.

8. It is noteworthy that all other Federal assistance; for example, flood assistance, hurricane assistance, Federal power subsidies, insurance subsidies, and almost every other Federal initiative does not require this consideration. That is, should the Federal Government refuse to help victims of disasters until it can be shown that their incomes are not greater than the poverty level? Comparability rates are a non-issue. Otherwise, the Federal government would be precluded from subsidizing the power costs in the Northwest, TVA, and all REA's. The sharing is meant to track the potential benefits from resolving the TMI problems. Obviously, the ratepayers in New Jersey/Pennsylvania should not be completely sheltered from the impact of the accident. The impact on other customers is minimal(approximately 12¢ per customer per year on the average). Jersey Central is already in the top 10% in cost per kilawatt hour and number two or number three highest in average annual bill. With the requests in the present rate case, JCP&L will be second, perhaps, only to Con-Ed.

9. All of the evidence to date indicates that TMI-2 is a continuing threat to the health and safety of all Americans. It is inconceivable to limit this threat to NJ/PA since no one really knows the extent to which the ongoing degradation can be confined to the Island. Water and air pollution would certainly be imminent if through lack of appropriate cleanup the contaminants (for whatever reason) were dispersed. Can we risk the future of NJ/PA and the surrounding states for a matter of $1 billion? A single piece of defense hardware costs many times this amount.

It is also clear that the NRC's and U.S. Court of Appeal's concern with psychological stress raises a different health dimension which must be dealt with now. Overall, it is essential to decontaminate the unit for the sake of the citizens who have relied on the representation of the Federal Government in support of nuclear technology.

Statement of the Edison Electric Institute

on

Senate Bill 1606

The Electric Utility Nuclear Accident Cost Allocation Act

before the

Committee on the Environment and Public Works

United States Senate

May 20, 1982

Introduction

My name is Frank W. Griffith. I am Chairman of the Board and President of Iowa Public Service Company, and Chairman of the Edison Electric Institute, the association of the nation's investor-owned electric utilities. Its members serve 99.6 percent of all ultimate customers served by the investor-owned segment of the industry, generate more than 77 percent of the electricity in the country, and serve more than 77 percent of all ultimate electricity customers.

I appear before you today on behalf of the Institute to present our views on S. 1606, the Electric Utility Nuclear Accident Cost Allocation Act, a bill introduced by Senators Heinz and Bradley, to provide a national program for the financial participation by electric utilities in the cost of decontaminating the Three Mile Island Nuclear Generating Station Unit No. 2. We welcome this opportunity to appear before you.

EEI Position on TMI-2 Cleanup

The Institute's analysis of the TMI cleanup issue has led the EEI Board of Directors to conclude that it is in the interest of electric utility systems, and particularly that of their customers, to contribute to the cleanup of TMI-2 for at least two reasons. First, we are convinced that electric utilities are paying a "risk premium" in financing needed power facilities because of the impasse surrounding the cleanup, and that an effective and equitable plan to deal with the TMI-2 cleanup will have a positive benefit on ratepayers of all utilities, most particularly those with nuclear power facilities. Prompt action on the TMI-2 cleanup would be a positive signal to the financial community, and would be beneficial toward improving security ratings of utilities, particularly those with nuclear power programs. This, in turn, could reduce the capital costs of future nuclear power plants, and other necessary energy-related expansion plans.

Secondly, the cleanup process for TMI-2 should yield important research and development benefits which will help utilities mitigate nuclear power cost increases and improve plant safety and reliability. The experience and knowledge gained in the cleanup will assist in improving operations and maintenance and thus reduce accident potentials and the cleanup and recovery time if there should be a future incident. In addition, it will assist in planning for routine decommissioning at the end of the useful life of nuclear plants.

The EEI Board also concluded that other parties, including most importantly the ratepayers of the General Public Utilities system, the States of Pennsylvania and New Jersey, and the Federal Government should participate financially in the cleanup.

Lastly, in order that utilities and their regulators can assess the regulatory impact of any cleanup costs, such costs should be fixed as to both amount and duration of payment.

An "open-ended" commitment should not be imposed on the electric utility industry. Finally, the Institute believes that legislation is necessary to establish a broad-based national program to equitably distribute a portion of the uninsured costs of the cleanup of TMI-2 among electric utilities.

EEI Position on S. 1606

The Institute believes that S. 1606, which is before this Committee, is a potential legislative vehicle to accomplish the objective of providing significant funds for the cleanup in a manner which takes into account the observations we have made. In our opinion, a legislative approach of this type will stimulate the acceptance of the "cost-sharing" approach to the TMI-2 cleanup financial problem.

The findings of this bill recognize that nuclear energy is one of the major energy sources available for electric energy production in the United States during the balance of the Twentieth Century, and that failure to complete the timely cleanup of TMI-2 will adversely affect investor confidence and the securities of electric utilities, particularly those owning or operating nuclear generating facilities. The findings of S. 1606 also recognize that Federal legislative action is necessary to assure the financial participation of electric utilities in the TMI-2 cleanup process and the equitable apportionment of a portion of the uninsured cost of the TMI-2 cleanup among them.

The bill imposes the payment by certain utilities of a fixed fee over a fixed period of time -- six years from 1982 to 1987. During this period, S. 1606, if enacted, would insure utility contributions of about $170 - $175 million. We believe this definitive method of imposing the assessment fee will help utilities and their regulators in their consideration of the cost implications of the bill.

S. 1606, however, would limit required participation to only certain utilities with nuclear power programs by prescribing a capacity charge on nuclear units in operation and also those under construction, provided their owners have a nuclear unit in operation or these utilities own a portion of a nuclear unit in operation. While the industry supports this legislative initiative, it continues to believe that delays in the TMI-2 cleanup adversely affect all utilities, and consequently all utilities should participate.

With regard to Chairman Stafford's question about the rate treatment of the cleanup fee, we believe that any TMI cleanup legislation should remain silent on the manner in which a Public Utility Commission or the Federal Energy Regulatory Commission should treat any assessment against any utility. The bill, prior to markup, contained no provision similar to Section 9. This left the matter where it belonged -- to be settled between the company and the State and Federal Commissions.

We object to Section 9 because the way it was added to the original bill may give rise to an inference that the funds be treated in a certain manner. The Institute strongly believes that funds for the cleanup of TMI are legitimate R&D expenses and should be so treated by regulatory agencies. In addition, as we have stated, utilities have been paying a "risk premium" in their financing because of the TMI cleanup impasse. Utility contributions to solve this problem will benefit the ratepayer by eliminating this premium and for this reason also, these small costs are legitimate operating expenses.

Obviously a successful financial plan to assure the cleanup of TMI-2 will, and should, require that GPU ratepayers make a substantial financial contribution. We understand that the Public Utility Commissions of Pennsylvania and New Jersey recognize this requirement and consequently, we do not believe at this time that the level of rates in the GPU service area should be a condition precedent to the utility participation program. Such a condition could delay and perhaps, stall the initiation of one part of a broader "cost-sharing" program to provide for the timely availability of some funds for the cleanup of TMI-2. We would also note, as was previously indicated in our testimony, that electric utilities should contribute financially to the cleanup because it is in their interest and those of their customers that the cleanup is carried out in an expeditious manner. This objective can best be met by a simple mandate to the electric utility industry for its share rather than with a complex legislative procedure which depends upon complicated comparisons.

Lastly, the Institute has stated that the solution to the TMI-2 cleanup problem requires a "cost-sharing" approach. Funds should be sought from all entities that have a significant interest in nuclear power. Major nuclear reactor manufacturers certainly fit into this category. Their financial participation on some equitable basis would lessen the burden on others who should also participate. We would not, however, delay the enactment of S. 1606, which deals specifically with utility participation, while this funding source is being considered.

Conclusion

The accident at TMI-2 happened slightly over three years ago. While some progress in cleaning up the reactor has been made, it has been agonizingly slow. A financial plan to assure the eventual cleanup of the plant is still not in place. The bill before you, with the modifications we have indicated as necessary, provides the foundation for a cooperative plan to assure adequate financial means for the cleanup. Others may wish to spend time assigning responsibility or blame, but we believe that after three years it is time for action. Should the Congress fail to develop an equitable means for utility participation, the cleanup problem will still be with us and, indeed, may call for greater Federal involvement than the Congress is currently contemplating.

* * * * *

RESPONSES FROM EDISON ELECTRIC INSTITUTE

QUESTIONS FROM SENATOR SIMPSON

1. If this legislation does not move forward, what is the likelihood, in your judgment, of investor-owned electric utilities voluntarily contributing funds toward the clean up of TMI-2?

As indicated in our testimony, the Institute believes that legislation is necessary to establish a broad-based national program to equitably distribute a portion of the uninsured costs of the clean-up of TMI-2 among electric utilities. Without such a mandate, 100 percent participation would not be possible. We believe a voluntary program would not assure the financial contribution level that is necessary. Nevertheless, if the Congress does not pass legislation of this type, the EEI Board of Directors will reevaluate the situation and probably consider other approaches such as some type of voluntary plan.

2. Does Section 9, in its current form, prescribe, in any fashion, the manner in which state regulatory bodies are to treat the fees collected under this bill? If this bill were silent on the treatment of these fees, would such silence, together with the fact that payment of the fees is federally required, require such fees to be passed through to ratepayers?

We believe that Section 9 may give rise to an inference that funds should be treated in a certain manner. For this reason, we believe that any TMI cleanup legislation should remain silent on the manner in which a public utility commission or the Federal Energy Regulatory Commission should treat any assessment against any utility under this bill. The bill prior to markup, contained no such provision as Section 9.

If the bill is silent, the resolution is ultimately between the company and the state and/or federal commissions. While that resolution will, of course, vary, we suspect that there would be an increased likelihood that fees would be dealt with like taxes and be passed through to the beneficiaries of nuclear power, viz. the ratepayers. Any language that calls attention to the issue of how the fees should be treated for ratemaking purposes could upset the natural inference because it, inter alia, creates a congressional record reflecting a debate on whether shareholders or ratepayers should pay the fees. We believe even the debate to be inappropriate at the federal level because the matter is one that should be addressed only locally.

3. What evidence is there to suggest that the "risk premium" you have referred to in your testimony results from failure to clean up the TMI-2 reactor and not from the very fact of the accident itself?

We believe that the imposition of a risk premium on the capital that the utility industry must raise is attributable to the lack of a prompt cleanup of TMI-2 rather than to the accident itself. We take this position because we believe that if there had been adequate funds readily available, and if there had been a regulatory process in place to permit the cleanup operation to proceed promptly, it could have been done effectively and quickly and the issue of the accident would not drag on as it has.

More specifically, it may be correct that the immediate risk premium initially resulted from the accident itself. However, once the immediate accident was proven to be containable and the costs of replacement power off-settable (through prudent industry insurance), the risk premium attenuated. The delayed risk premium relates to different risk factors, viz. the uncertainty about the cleanup, itself, which creates an overhang on the industry as a whole.

4. If this bill moves forward, how long do you estimate it will take for state regulatory bodies to act upon rate request and actually make funds available?

If the law is passed in its present form the funds will be available whenever the law requires. The utility must make the payment in accordance with the law regardless of how that payment is treated by public utility commissions.

The timing of regulatory commission treatment is difficult to determine as it will depend upon how and when a utility approaches its Public Utility Commission. Most likely it would be an expense that would be considered in the course of a normal rate case. When a utility files for a new rate and how long a Commission deliberates on the petition will vary.

QUESTIONS FROM SENATOR GEORGE J. MITCHELL

1. What was the public position taken by the Edison Electric Institute in 1973 on an amendment sponsored by then Senator Schweiker to increase state insurance coverage of nuclear power plants? To the best of your knowledge, what was the public position of other representatives of the nuclear utility industry?

The records in EEI do not contain any information on this subject. It is possible that views of individual members or the Institute on Senator Schmakers amendment were expressed. However, we cannot, without a rather lengthy review of the public records, respond. If you wish us to make such a review we will be happy to do so.

2. In September 1981, the Edison Electric Institute publicly announced a plan providing for a voluntary commitment from its members of $192 million toward the TMI-2 cleanup. Why is it necessary now to federally mandate this voluntary commitment? How many utilities actually volunteered such a commitment?

The response that the Edison Electric Institute made last September to Governor Thornburgh's cost-sharing approach was to recommend to the electric utility industry that it make financial contributions to the cleanup of TMI. EEI cannot volunteer financial assets of its members. Included in the recommendation that was approved by the EEI Board of Directors, was a stipulation that these contributions should be mandated. The reason for the need to mandate utility contributions is adequately stated in S. 1606, namely "to equitably distribute a portion of the uninsured costs of the cleanup of TMI-2 among electric utilities..." Without such a mandate, 100 percent participation would not be possible, and the availability of these funds in future years would be uncertain. A voluntary program will not assure the financial contribution level that is necessary.

3. Should the legislation require a financial contribution to the TMI-2 cleanup by the major nuclear reactor manufacturers in this country?

As indicated in our testimony of May 9th, we believe that the solution to the TMI-2 cleanup problem requires a cost-sharing approach, and that funds should be sought from all entities that have significant interests in nuclear power. Major nuclear reactor manufacturers certainly fit into this category. Their financial participation on some equitable basis would lessen the burden on others who should also participate. We do not, however, believe that decisions regarding vendor participation should delay the enactment of S. 1606, which deals specifically with utility contributions, while this funding source is being considered.

4. It has been reported that nuclear utilities are presently paying higher interest rates to obtain capital; it has been suggested numerous times during this debate that this is due largely to delays in TMI-2 cleanup. It is not fair to say, however, that such a higher risk premium is primarily a result of the accident itself and its far-reaching effects on the financial outlook of the nuclear power industry?

We believe that the imposition of a risk premium on the capital that the utility industry must raise is attributable to the lack of a prompt cleanup of TMI-2 rather than to the accident itself. We take this position because we believe that if there had been adequate funds readily available, and if there had been a regulatory process in place to permit the cleanup operation to proceed promptly it could have been done effectively and quickly and the issue of the accident would not drag on as it has.

More specifically, it may be correct that the immediate risk premium initially resulted from the accident itself. However, once the immediate accident was proven to be containable and the costs of replacement power off-settable (through prudent industry insurance), the risk premium attenuated. The delayed risk premium relates to different risk factors, viz. the uncertainty about the cleanup, itself, which creates an overhang on the industry as a whole.

QUESTIONS FROM SENATOR GARY HART

1. Last September, in response to Governor Thornburgh's cost-sharing proposal, your group, EEI, committed "voluntarily" to have its members contribute $192 million to the TMI-2 cleanup. Moreover, EEI said its proposal was not contingent upon the participation of others including the Federal Government. As far as I know, none of that money has been forthcoming. Why not? Why do we need a bill such as this to mandate contributions that your members have agreed to make voluntarily?

The response that the Edison Electric Institute Board of Directors made last September to Governor Thornburgh's cost-sharing approach was to recommend to the electric utility industry that it make financial contributions to the cleanup of TMI. EEI can not volunteer financial assets of its members. Included in the recommendation that was approved by the EEI Board of Directors, was a stipulation that these contributions should be mandated. The reason for the need to mandate utility contributions is adequately stated in S. 1606, namely "to equitably distribute a portion of the uninsured costs of the cleanup of TMI-2 among electric utilities..." Without such a mandate, 100 percent participation would not be possible and the availability of these funds in future years would be uncertain. A voluntary program will not assure the financial contribution level that is necessary.

2. When Governor Thornburgh originally announced his cost-sharing proposal, he included nuclear manufacturers and vendors as parties which should contribute. What specific actions has EEI taken to encourage contributions from the rest of the nuclear industry?

   Should the nuclear manufacturers and vendors have to contribute a portion to the TMI-2 cleanup? How much? Will they agree to contribute?

Since last September when the EEI Board of Directors announced its recommendations concerning TMI-2 cleanup, EEI has been concentrating its efforts on convincing the Congress on the need for legislation to mandate utility contributions for the reasons stated in our answer to Question No. 1. While it is our understanding that some utility executives may have informally spoken to representatives of the nuclear equipment industry, EEI has made no formal approach to the nuclear equipment industry to participate financially in the cleanup program. As stated in our testimony, we believe it appropriate for that sector of the industry to participate. However, we do not believe that this bill should be delayed until this matter is resolved.

Since we have not approached nuclear manufacturers and vendors, we cannot respond to the latter part of your question regarding how much they should contribute and whether or not they are willing to contribute.

3. As justification for this bill, it has been suggested that nuclear utilities are paying higher interest rates to obtain capital because of a "risk premium" resulting from TMI. If there is such a "risk premium", hasn't it resulted from the fact of the accident itself, rather than from the failure of GPU to clean up its damaged reactor quickly?

   More important, wouldn't the existence of such a "risk premium", and the higher capital costs incurred by nuclear utilities, make your members eager voluntarily to contribute to the cleanup to reduce their interest rates? If so, why do we need this bill?

We believe that the imposition of a risk premium on the capital that the utility industry must raise is attributable to the lack of a prompt cleanup of TMI-2 rather than to the accident itself. We take this position because we believe that if there had been adequate funds readily available, and if there had been a regulatory process in place to permit the cleanup operation to proceed promptly it could have been done effectively and quickly and the issue of the accident would not drag on as it has.

More specifically it may be correct that the immediate risk premium initially resulted from the accident itself. However, once the immediate accident was proven to be containable and the costs of replacement power off-settable (through prudent industry insurance), the risk premium attenuated. The delayed risk premium relates to different risk factors, viz. the uncertainty about the cleanup, itself, which creates an overhang on the industry as a whole.

EEI member companies recognize the benefit to their customers of removing the "risk premium" on their financing, but the financial conditions of many utilities make it difficult if not impossible for them to make such payments voluntarily in view of other needs for financing, and this together with the need to assure 100% participation dictates the need for a legislative mandate.

4. Please describe in detail exactly what actions EEI has taken since last September to meet its commitment of $192 million in utility contributions to the cleanup of TMI-2.

   a) Have formal requests been made to each utility on behalf of EEI? How has EEI notified each utility of its share under the EEI plan?

   b) Have members of EEI's board made presentations at utility board or shareholder meetings in an effort to persuade their own or other utilities to contribute?

The commitment that EEI made in September of last year was to recommend that the electric utility industry contribute $192 million over a six-year period to the cleanup of TMI-2. As indicated in our response to Question No. 1, EEI can not commit the funds of its members.

Since the recommendation also included a provision that we should seek to have these funds mandated because of reasons already indicated in our testimony and in the answer to Question No. 1, we have been concentrating on obtaining appropriate legislation rather than using our efforts to make formal requests to utility systems. If the legislative approach were enacted, the formal request would be coming from the Government (See Section 5(b) of S. 1606) and there would not be any role that EEI would play. Consequently, we have not made a formal request to each utility or formally notified each utility of its share because the legislation will determine what that share should be. Because of the manner in which we have approached the TMI-2 cleanup issue, members of EEI's board have not made presentations at utility board or stockholder meetings.

5. Which member utilities have formally voted to approve or reject TMI contributions at board or shareholder meetings? What is the status of the TMI contribution for each of these utilities?

We have not requested from EEI member companies any information regarding the discussions they have had with their boards or their stockholders about the cost-sharing proposal wherein contributions would be made by utilities for the cleanup. Consequently we cannot provide any data in response to this question.

6. Please list the utilities that have informed their state regulatory bodies of their intention to contribute toward the cleanup of TMI. What is the status of each request for ratebase treatment?

We have not requested and therefore we are not aware of communications utilities may have had with their state regulatory bodies regarding their intent to contribute toward the cleanup of TMI.

7. Within the past three years, which of your member utilities have been denied ratebase reimbursement of their annual EEI dues? In each case, how much were the dues requested?

EEI does not, as a matter of course, monitor State Commission action with respect to EEI dues. However, we are aware that there are at least eleven state public utility commissions that have either disallowed all trade association dues by policy or law, or have in the last three years disallowed individual company applications for ratemaking treatment of all or a portion of EEI dues. Some of the actions disallowing individual company requests for rate treatment were made on the basis of company presentations which were deemed not to have met the burden of proof demonstrating ratepayer benefits of EEI activities. Some of these rulings may change upon more complete presentations by member companies. Where state policy is set by rule or statute against recovery of EEI dues member companies may not even apply for rate treatment of them.

Some states that have denied - either through individual ruling or operation of law - all or a portion of EEI dues not associated with research and development activities are:

Missouri

Delaware

California

Texas

Massachusetts

Florida

Pennsylvania

District of Columbia

Nex Mexico

Washington

Wyoming

N.B. This listing may not be all inclusive.

Some states that have provisions for ruling on a case-by-case basis, or which formally require the company to meet the burden of proving ratepayer benefits are:

Indiana

Kansas

Kentucky

North Carolina

Attached is a table from the 1980 NARUC Annual Report summarizing commission policies on dues and contributions from which a portion of the above information has been compiled.

We have no information as to the amount of EEI dues allowed or disallowed as expenses by State Commissions.

1980 NARUC
ANNUAL
REPORT

Table 15 - ALLOWABLE CONTRIBUTIONS AND DUES

AGENCY	In respect to cost of service allowances, the Agency allows contributions and dues payments to the following types of organizations -												
	Religious	Charitable	Educational	Civic	Patriotic	Political	Fraternal	Economic Development	Service	Trade	Professional	Promotional	Local, State and National ad hoc fundraising drives
FCC 9/													
FERC	X	X	X	X	1/			1/	1/	1/	1/		1/
ALABAMA PSC		X	X	X	X			X		X	X	X	
ALASKA PUC		X	X	X	X					X	X		
ALASKA TC		X	X	X	X								
ALBERTA PUB 7/										X	X	X	
ARIZONA CC		X	X	X	X		X	X	X	X	X	X	
ARKANSAS PSC 10/										X	X		
CALIFORNIA PUC										X	X		
COLORADO PUC										X	X1/		
CONNECTICUT DPUC								X	X	X	X		
DELAWARE PSC	X	X	X	X	X			X			X		X
D.C. PSC								X		X	X		
FLORIDA PSC		X	X	X				X			X		X7/
GEORGIA PSC								X		X	X		
GUAM PUC	X	X	X	X	X			X	X	X	X		X
HAWAII PUC				X				X	X	X	X		
IDAHO PUC	X	X	X	X	X			X	X	X	X1/	X1/	X
ILLINOIS CC	X16/	X16/	X16/					X	X	X	X		
INDIANA PSC 12/													
IOWA SCC									X	X	X		
KANSAS SCC	X17/	X17/	X17/	X17/				X17/	X13/	X17/			X17/
KENTUCKY PSC 22/													
LOUISIANA PSC		X	X	X	X			X	X	X	X		
MAINE PUC										X	X		
MARYLAND PSC								X	X	X	X		
MASSACHUSETTS DPU	X	X	X	X	X		X	X	X	X	X	X	X
MICHIGAN PSC								X3/		X	X		
MINNESOTA PUC		X 19/	X 19/	X 19/				X1/		X	X		19/
MISSISSIPPI PSC	X	X	X	X	X		X	X	X	X	X	X	
MISSOURI PSC								X	X	X	X		
MONTANA PSC	X	X	X	X	X			X	X	X	X		X
NEBRASKA PSC		7/		X					X	X	X		
NEVADA PSC				5/				4/	X	X	X	4/	4/
NEW HAMPSHIRE PUC		9/	3/					3/	3/	X	X		
NEW JERSEY BPU	X	X	X	X	X		X	X	X	X	X	X	X
NEW MEXICO PSC													
NEW MEXICO SCC	X		X	X	X				X		X		
NEW YORK PSC		8/	8/	8/				X	X	X	X	X	X
NORTH CAROLINA UC		7/	7/	7/				7/	7/	7/	7/	7/	
NORTH DAKOTA PSC								X		X	X	X	
NOVA SCOTIA PUB		3/	3/						3/	3/	3/	3/	
OHIO PUC 20/										X	X		
OKLAHOMA CC 11/								X		X	X		
ONTARIO EB 18/													
ONTARIO TBC								X		X	X	3/	
OREGON PUC										X	X		
PENNSYLVANIA PUC								X		X	X		
PUERTO RICO PSC									X	X	X	X	
QUEBEC RRB 15/	X	X	X	X	X		X	X	X	X	X		X
QUEBEC PEB	X	X	X	X				X	X	X	X	X	
RHODE ISLAND PUC										X	X		7/
SOUTH CAROLINA PSC										X	X		
SOUTH DAKOTA PUC									X	X	X		
TENNESSEE PSC 15/		X	X	X	X			X	X	X	X	X	
TEXAS PUC 13/		1/	1/	1/				1/	1/	X	X		
TEXAS RC 21/													
UTAH PSC										X	X		
VERMONT PSB		X	X	X	X			X	X	X	X	X8/	X5/
VIRGIN ISLANDS PSC	X	X	X	X	X		X	X	X	X	X	X	X
VIRGINIA SCC	X	X	X	X				X		X	X		
WASHINGTON UTC 8/													
WEST VIRGINIA PSC									X1/	X	X	X	
WISCONSIN PSC				1/				1/	X	X	X	1/	
WYOMING PSC 14/													

1/ Allowance would depend on specific nature of activity to be funded.

2/ No firm policy.

3/ Allowed if it promotes utility growth, but burden of proof of this rests with the utility.

4/ Conditional.

5/ Sometimes.

6/ The level of contributions during the period when contributions were not allowed serves as a benchmark for the future.

7/ Handled on an individual case basis.

8/ Current cases--none allowed.

9/ Reasonable amounts allowed.

10/ All contributions and dues are at issue.

11/ Justification for inclusion in cost of service placed on utility.

12/ The PSC has eliminated certain charitable contributions in recent rate cases, only advertising producing material benefits to customers allowed. Utility has burden of proving material benefit. The PSC may issue declaration of compliance regarding proposed advertising. The PSC normally allows any above the line items as enumerated by the system of accounts.

13/ Actual expenditure for ordinary advertising contributions and donations is allowed as cost of service up to .3% of operating revenues. Specific exclusion may be made.

14/ None allowed.

15/ Reasonable amounts of the items indicated.

16/ Ill. Revised Stats., Ch. 111 2/3, Sec. 41. "...for the public welfare or for charitable, scientific, religious or educational purposes, providing that such donations are reasonable in amount."

17/ All such expenses are subject to removal from the cost of service. Applicant has the responsibility to establish that the ratepayer will be benefited as opposed to the stockholder.

18/ Charitable donations disallowed. Other items considered on basis of prudent expenses.

19/ Only 50% of qualified contributions shall be allowed as operating expense. MS 216B.9.

20/ Donations for charitable, social, or community welfare purposes, social and service club dues, and expenditures for civic, political and related activities are disallowed.

21/ Charitable contributions not allowed; dues allowed if reasonable.

22/ The Commission does allow charitable contributions and only allow advertising producing material benefits for the ratepayers. The Commission would normally allow any above the line items as specified by the system of accounts.

Table 19 - AGENCY POLICY WITH RESPECT TO CONTRIBUTIONS AND DUES

AGENCY	Agency policy with respect to including contributions and dues payments as an allowance in cost of service including requirements for itemization of expenditures for contributions and dues payments -
FCC	Reasonable amounts allowed.
FERC	Varies depending on circumstances and evidence in the rate case. Charitable donations are allowed, other contributions and dues payments are allowed to the extent that they are reasonable and legitimate.
ALABAMA PSC	Must be itemized. Each case is decided on its own merit.
ALASKA PUC	Contributions are treated below the line; treatment of dues payments varies.
ALBERTA PUB	Each case decided on its own merit.
ARIZONA CC	The Commission in recent cases has not allowed all of the items, only those related to the trade. Some charitable contributions and donations are not allowed as operating expenses.
ARKANSAS PSC	If it can be determined that these benefit the subscriber or customer.
CALIFORNIA PUC	Policy is to allow dues payments that are directly beneficial to the ratepayer.
COLORADO PUC	Permitted only if benefit to consumer is evident.
CONNECTICUT DPUC	Each case decided on its own merit.
DELAWARE PSC	Contributions and dues must be itemized. Each case decided on its own merit.
D.C. PSC	Each case decided on its own merit.
FLORIDA PSC	Items recorded below the line as per USA; a reasonable portion might be transferred above the line for rate case purposes, i.e., those contributions which benefit the utilities service area; detailed itemization required in suggested rate case supporting data.
GEORGIA PSC	Full details by utility subject to review as to their reasonableness by the Commission.
GUAM PUC	None.
HAWAII PUC	Contributions and dues payments are handled on an individual case basis.
IDAHO PUC	None.
ILLINOIS CC	Contributions are allowed if they are kept within reasonable bounds. The Commission does not require utilities to itemize contributions by categories, but such expenses are scrutinized during rate cases.
INDIANA PSC	The PSC has eliminated certain charitable contributions in recent rate cases; only advertising producing material benefits to customers allowed. Utility has burden of proving material benefit. The PSC may issue declaration of compliance regarding proposed advertising. The PSC normally allows any above the line items as enumerated by the system of accounts.
IOWA SCC	Amounts charged to FERC account 426 are generally not included in cost of service of any company filing.
KANSAS SCC	A Kansas Supreme Court decision requires allowance of reasonable amounts but they must be scrutinized.
KENTUCKY PSC	Must be justified by item of expenditure.
LOUISIANA PSC	Contributions to local organizations and subscriptions and dues to trade or professional organizations are allowed. Expenses are to be itemized.
MAINE PUC	Itemization not required on books of account.
MARYLAND PSC	Charitable contributions not allowed.
MASSACHUSETTS DPU	Attempted to disallow "image" advertising and charitable contributions and was overruled in court decision.
MICHIGAN PSC	Itemized as required by FERC and FCC report forms, but the Commission makes an independent audit for rate cases. Our criterion generally is what is the benefit to the ratepayer.
MINNESOTA PUC	Only 50% of qualified contributions shall be allowed.
MISSISSIPPI PSC	Certain dues were disallowed by Commission, but were reversed and allowed by State Supreme Court.
MISSOURI PSC	Contributions and dues must be business related expenses.
MONTANA PSC	Reasonable contributions; anything over $500 itemized.
NEBRASKA PSC	Each case decided on its own merits.
NEVADA PSC	Developed through audit.
NEW HAMPSHIRE PUC	When authorized, amounts must always be reasonable and not disproportionate. Any amount contributed must be disclosed along with the name of organization receiving contribution. Subject to continuing Commission review.
NEW JERSEY BPU	None.
NEW MEXICO PSC	None.
NEW MEXICO SCC	None.
NEW YORK PSC	Commission will allow contributions for charitable, social and community welfare programs when the company has exercised prudence both as to recipients and amounts. The level of contributions during the period when contributions are not allowed in the cost of service, will serve as a benchmark for the future.
NORTH CAROLINA UC	Must be itemized. Each case is decided on its own merit.

Table 19 - AGENCY POLICY WITH RESPECT TO CONTRIBUTIONS AND DUES (Continued)

AGENCY	Agency policy with respect to including contributions and dues payments as an allowance in cost of service including requirements for itemization of expenditures for contributions and dues payments -
NORTH DAKOTA PSC	Allow only those contributions directly related to the utility.
NOVA SCOTIA PUB	No firm policy.
OHIO PUC	Complete itemization of allowable expenditures is required. Donations for charitable, social, or community welfare purposes, social and service club dues and expenditures, for civic, political and related activities are disallowed. Dues and membership fees in trade, technical and professional associations are allowed.
OKLAHOMA CC	An Oklahoma Supreme Court decision holds that contribution on an item be disallowed. Dues are scrutinized - burden on utility to prove benefits.
ONTARIO EB	Charitable donations are disallowed. However, trade dues, promotional expenses, etc. are allowed if prudently incurred.
ONTARIO TSC	Judgment factor used as to amount and purpose.
OREGON PUC	Payments to organizations related to the utility industry are approved.
PENNSYLVANIA PUC	Generally, any charitable contributions are disallowed for rate making purposes.
PUERTO RICO PSC	None.
QUEBEC EGB	No formal policy. Contributions are generally allowed in cost of service. Amounts must be reasonable.
QUEBEC PSB	The amounts must be reasonable before they are allowed.
RHODE ISLAND PUC	Generally, all charitable contributions are disallowed for rate making purposes.
SOUTH CAROLINA PSC	None.
SOUTH DAKOTA PUC	Contributions and dues not allowed if not related to the provision of adequate reliable utility service.
TENNESSEE PSC	The amounts must be reasonable before they are allowed.
TEXAS PUC	All payments must be itemized and are subject to review.
TEXAS RC	Charitable contributions not allowed; dues allowed if reasonable.
UTAH PSC	Contributions for charitable, social or community welfare purposes are included in Account 426, Other Income Deductions.
VERMONT PSB	Judgment factor as to amount and purpose of donation.
VIRGIN ISLANDS PSC	None.
VIRGINIA SCC	Generally allowed as expenses when they are to organizations located or active in service area of utility.
WASHINGTON UTC	Current cases--none allowed.
WEST VIRGINIA PSC	Charitable contributions not allowed.
WISCONSIN PSC	Civic, economic development, service, trade, professional and promotional contributions and dues generally allowed. Facts and circumstances of individual cases may result in alternate approach.
WYOMING PSC	None Allowed.

STATEMENT ON S. 1606
SUBMITTED TO SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
BY LARRY HOBART, DEPUTY EXECUTIVE DIRECTOR
AMERICAN PUBLIC POWER ASSOCIATION

May 20, 1982

My name is Larry Hobart. I am Deputy Executive Director of the American Public Power Association. APPA represents 1,750 local public power systems located in 48 states.

APPA members are interested in nuclear power because (a) some of them own and operate nuclear power plants; (b) a number are joint owners of nuclear power plants built and operated by other utilities; (c) others have executed life-of-unit agreements for capacity in nuclear power plants; and (d) many purchase power at wholesale from utilities which use nuclear power plants for part of their generation.

Because it is pertinent to an understanding of S. 1606, I have attached to this statement a list of public power systems which have ownership interests in nuclear power plants.

APPA opposes S. 1606 because the Association believes it is unnecessary, unfair, and undesirable.

The bill is unnecessary because with appropriate actions by the state public utility commissions of Pennsylvania and New Jersey, coupled with existing Federal subsidies, the three subsidiaries of the holding company General Public Utilities could collect in rates funds adequate to pay for the cleanup of Three Mile Island Unit No. 2 without unreasonably burdening electric users in those service areas.

S. 1606 is unfair because it seeks to use a Federal tax on nuclear power to transfer money to GPU from the pocketbooks of consumers in other parts of the country served by utilities which have imposed rate increases of their own and had no causal connection with the accident at TMI-2, and because it discriminates against consumers served by consumer-owned electric utilities.

It is undesirable because it would set a precedent for bailing out utilities who might run into financial problems by amending the law to add new troubled projects without examining the need to encourage responsibility and accountability.

Attached to this statement is a 1980 APPA resolution which lays out the Association's positions on matters related to TMI-2. S. 1606 is not in accord with the resolution, and APPA urges that you table it.

Here are some specific comments relative to S. 1606 as amended in the Senate Committee on Energy and Natural Resources:

1. It is not true, as stated in Sec.2 (e) under findings, that "the cost of TMI-2 cleanup is beyond the ability of the TMI-2 owners to fund, and a shared approach to funding the TMI-2 cleanup is fundamental to a solution of the problems faced by the electric utility industry as a result of the accident."

Last Fall, the General Accounting Office estimated that the unfunded balance of cleanup costs at the end of 1981 would be $570 million. It has never been assumed that TMI-2 cleanup would take place "instantaneously" even with easy access to money, and the total cleanup sum need not be accessible at a single point in time. NRC's February, 1982, critical path for cleanup operations shows work extending through July, 1985. "Although there are overlapping cleanup efforts (e.g., the processing of contaminated water would be an on-going task), operations, in general, are expected to proceed sequentially according to the milestones....", the Commission said this Spring. NRC, GAO, and GPU are all apparently agreed that an annual expenditure of about $150,000,000 is needed to maintain the schedule.

Statements in September, 1981 by the top official of General Public Utilities indicate that the remaining cleanup costs at TMI-2 could be financed by an average 10 percent hike in rates of Metropolitan Edison, Pennsylvania Electric, and Jersey Central Power and Light. The chairman of GPU said just last Fall that "even if the full burden were laid on the company, the rates of GPU consumers would still not be out of line with the customers of other companies," according to the attached story in the Energy Users Reports. The cleanup of TMI-2 "is not the rate-making burden that some tended to think when we first addressed the issue," William Kuhns told the Pennsylvania Electric Association. Since the 1979 accident, the rates of Metropolitan Edison, the GPU subsidiary which operated the plant, have increased 55 percent, which Mr. Kuhns said was "not out of line with other utilities."

The reason that this solution has not been effectuated is that the state public utility commissions in New Jersey and Pennsylvania have not allowed it to happen. As noted by Representative Morris Udall, Chairman of the House Committee on Interior and Insular Affairs, during TMI-2 hearings last week:

"In January of this year the Pennsylvania PUC and the State Public Advocate reached a settlement with GPU that established the principle that Pennsylvania ratepayers would, in fact, help pay for the cleanup. The significance of this decision has been clouded, however, because funds for cleanup were tied to revenues to be generated by the restart of TMI-1. At about the same time, the PUC revealed its new position, the Court of Appeals issued its decision on psychological stress, and severe corrosion problems were discovered in the TMI-1 steam generators. The court decision, the steam generator corrosion, and continuing appeals have delayed for an indefinite time the restart of Unit 1."

Chairman Udall said that when members of this committee visited TMI on March 29, "the local sentiment was unanimous that the restart of TMI-1 and the cleanup of TMI-2 should be disengaged and treated as completely separate matters."

As the GAO concluded in October:

"Rate relief is clearly needed by GPU in order to generate the necessary cash to meet its needs. And this rate relief can come only from the State regulatory commissions of Pennsylvania and New Jersey. These commissions, therefore, literally have the future of GPU and its customers in their hands. Given the past regulatory actions of the commissions there is no reason to expect that lenders would be willing to come to the aid of GPU. These commissions will have to give a strong, clear signal that they are willing to restore the financial viability of the companies before anyone will be willing to extend GPU the lines of credit it needs for its operations. Since the financial rebuilding of GPU will take time, we believe it is imperative that the commissions immediately begin to restore the companies' financial viability.

"Fortunately, there is sufficient time to take corrective action. The time should be used as advantageously as possible to allow the company to regain its financial health, thereby ensuring continued power supplies to its customers. We cannot over-emphasize the critical importance of the state commissions to act as an integral part of this rebuilding process."

2. Statements contained in Sec. 2 (f) are not wholly accurate. In the first place, it is not clear that there will be a "failure to complete the timely cleanup of TMI-2." In February, 1982, NRC released its revised "NRC Plan for Cleanup Operations at Three Mile Island Unit 2." That report contains a master schedule for major NRC/licensee actions. A copy is attached. The report lists a number of major cleanup-related activities completed thus far, including decontamination of 750,000 gallons of accident-generated water in the auxiliary and fuel handling building, purging of krypton, reactor building entries for data gathering and maintenance, initiation of decontamination of the balance of accident water located in the reactor building sump and reactor coolant system, and agreement with DOE on removal and disposition of solid wastes.

Furthermore, it is not clear that TMI-2 "will continue to adversely affect investor confidence in the securities of electric utilities, particularly those owning and operating nuclear generating units, thereby increasing the cost of electric energy and the rates which consumers must pay for electric energy...."

The "risk premium" analysis which is used to support the concrete calculation of the costs of TMI-2 to other utilities can easily lead to specious claims. As pointed out by the firm of L. R. Rothschild, Unterberg, Towbin on October 20:

"A risk premium analysis of utility capital costs is subject to many limitations. The pricing structure and fickle psychology of the capital markets are the product of almost infinite influences. Attempts to attribute variations in the cost of capital to specific events, by eliminating all exogenous factors, are bound to be imprecise." Attempts to isolate the financial impact of TMI-2 are clearly masked by escalation in utility costs of construction, money, fuel, and regulation coupled with a slowdown in electric load growth.

In a cautionary comment, the firm initiated its study of the cost of debt capital with the sentence: "As mentioned, the risk component of borrowing costs is difficult to measure and cannot be reliably allocated to specific events."

It is interesting to note that "risk premium" analysis shows that the 1974 Con Ed incident pushed up costs higher than TMI-2 has done. "As it became evident that the Con Edison example was not contagious, fears abated and so did the risk portion of capital costs," the October 20 testimony stated.

In 1974, the nation's largest private power company, Consolidated Edison of New York, found itself in financial difficulty. To solve its problems, the utility dropped its second quarter dividend and subsequently sold two generating stations to the State of New York for $500 million. The financial world was aghast. "A pall of doubt hangs over the stocks, bonds, and financing prospects of every utility in the U.S.," Business Week reported on May 25, 1974. The magazine found that: "For many utilities, the effect of Con Ed's action was immediate, direct, and cataclysmic." Business Week quoted the President of Florida Power & Light Company, Marshall McDonald: "It really clobbered the utilities. They have long been considered the best stocks for widows and orphans, and now we have the largest of them in trouble and passing its dividend. This throws the viability of the entire industry in doubt. It makes it more difficult for us to sell securities at a time when we need to sell them more than ever."

Robert Abrams, then President of the Borough of the Bronx in New York, reflected the political concern raised by the Con Ed situation in a letter of May 20 to Congressional committee chairmen in which he said:

"Within the past month, Consolidated Edison, the giant utility which provides gas and electricity to almost 10 million residents and thousands of businesses in New York State, has stated that it is on the brink of bankruptcy and omitted its common stock dividend for the first time since 1885. These actions by the Company provoked a financial collapse in Con Edison stock, and, literally overnight, wiped out hundreds of millions of dollars in stockholder equity. During this tailspin period the stock plummeted more than 60% from $18 to $7 a share.

"This has created a generalized crisis of confidence for utility funding and threatens to bring substantial increases in future interest charges not only for Con Ed but for dozens of other utilities across the coutnry. Because of the 'cost-plus' pattern of regulation in this industry, these additional borrowing costs will be converted automatically into rate increases and higher gas and electric bills for tens of millions of consumers. Clearly, the Con Edison collapse is not simply a matter of local concern but threatens a serious impact on utilities and consumers throughout the nation. This is why I am now requesting a full-scale Federal investigation by your committee which will examine all aspects of this crisis, especially the apparent total failure of the whole network of Federal and State regulatory agencies mandated to protect consumers and stockholders alike from just such a cascading economic breakdown."

Despite the pessimission that prevailed at that time, within three years Con Ed announced a record annual dividend in what the experts called a "spectacular" financial rebound.

This year, the April 14 issue of the New York Times reported utility stock advances led by Con Ed. "The utility average gained 0.69, to 111.62," the Times noted. "Con Edison, selling at record prices, rose a point, to 37 1/8. As announced earlier, shareholders will vote in May on a proposed 2-for-1 stock split. Con Edison, moreover, is one of nearly a dozen utility issues on the Big Board that traded last week at their highest prices for a year or more." The Times went on to say that:

"Propects for the power utility group look increasingly bright in 1982," Simeon R. Trotter of Rauscher Pierce Refsness Inc. of Dallas said recently in a comment reflecting the opinion of many analysts around the country." High yields, trimmed construction program, diversification plans and--in many cases--rising profits are cited repeatedly as among the attractions of utility stocks."

But the real test which the "risk premium" analysis flunks is the test of believeability: no one is paying attention to it.

Take this statement from a special report prepared by the Atomic Industrial Forum on the upturn in utility financing. AIF commented on escalating earnings, and then asserted:

"Investor reception for electric utility stocks also appears to be running higher. So far in 1982, it's been 'excellent,' Dean Witter Reynolds, Inc., said in February. Of the nine major stock offerings in early 1982, only one sold below the registration price, the firm reported."

"Significantly, nuclear utilities are on many buy lists, as nuclear energy by itself is not widely considered a deterrent to investors. Nuclear units on line, or close to completion, are 'no drawback to investment,' says Doris Kelley, senior industry analyst at Merrill Lynch. Operating nuclear plants are assets to companies' rate bases, she notes, and those near completion soon should be.

"Nuclear utilities, in fact, generally have improved their standing on Wall Street since the Three Mile Island accident. Following TMI, Merrill Lynch reported that nuclear utility stocks, relative to stocks of non-nuclear utilities, fell about 4 to 5 percent. Today, only a 'modest differentiation' remains, says Kelley.

"As a rule, she says, other investment criteria are more important than the nuclear/non-nuclear distinction. Among key factors, she says, are the regulatory environment, and how much of a utility's budget is tied up in construction, which is very costly for utilities at today's high interest rates and unpredictable leadtimes."

Attitudes about investments in nuclear power plants are undoubtedly infuenced by the actions of Congress and the Executive Branch in toughening-up construction and operational standards. A whole series of "lessons learned" from the accident at TMI-2 have been formulated by NRC and put into practice through revised Commission rules, regulations, and requirements.

Consumers of many utilities with nuclear power plants have already absorbed significant sums because of lessons learned from TMI-2. For instance, the Sacramento, California, Municipal Utility District estimates that the cost of TMI-2 modifications for its 900,000 kilowatt Rancho Seco nuclear unit will run from $100 to $125 million or about one-third of the original $340 million total plant cost.

Reactions of investors to nuclear plans of electric utilities are also conditioned by creation of the Institute for Nuclear Power Operations--a non-profit, independent organization set up in 1979 by the nuclear utility industry and dedicated to promoting safety in operations of nuclear power plants. Every U.S. utility with an operating license, a construction permit, or a limited work authorization for a nuclear power plant is a member of the Institute. INPO's activities are aimed at reducing the probability of a serious nuclear plant accident. It does this through plant evaluations, indentification and analysis of significant events, training and education guidelines, manpower planning, and assistance in emergency preparedness.

Another factor which could encourage investors is the expansion of nuclear property damage insurance. The utility mutual company and the insurance industry pool provide basic coverage of $450,000,000 and $460,000,000 respectively, and excess coverage is available up to an additional $357,000,000, I understand. Furthermore, it is considered possible that overall coverage may rise to $1,500,000,000 by the summer of 1983.

3. Sec. 3 specificies that the purpose of S.1606 is "to establish a broad-based national program to equitably distribute a portion of the uninsured cost of the cleanup of TMI-2 among those electric utilities primarily benefiting from nuclear generation; and, thereby, to protect the public health and safety, and provide for the common defense and interests of interstate and foreign commerce, which are heavily dependent upon a reliable supply of electricity." APPA does not believe that "equity" is promoted by this legislation or that it is necessary to promote the purposes cited.

The Tennessee Valley Authority, in testimony presented April 23 to the House Committee on Interior and Insular Affairs Committee, pointed out that S.1606 "is an after-the-fact assessment which has generally been considered unjust under the laws of this country. Moreover, this particular case, it seems to us, has little or no equity to recommend it. Since publicly owned electric power systems, like TVA, have no stockholders from which to obtain these funds, their only resource will be to collect them from their own customers in the form of higher rates." Said TVA:

"The GPU rate increases that would be necessary to pay all the TMI-2 cleanup costs are not more than should be appropriately assumed by GPU customers. GAO has estimated that rate increases sufficient to pay all such costs would only range between 4 percent and 15 percent. The chairman of GPU has estimated these rate increases would range between 5 percent and 16 percent. Even with these increases, however, customers of several neighboring utilities would still have higher rates according to GAO."

Your letter of invitation to APPA to testify at these hearings posed three questions to which you requested the Association's answers.

1. "Whether the legislation should include a prohibition on pass-through to the utility ratepayers of a specified percentage of the TMI-2 cleanup fee imposed by the bill."

For public power systems, enactment of the bill reaches the same result--with or without a pass-through prohibition. This is true because with a consumer-owned electric utility, the owner and the user are one and the same, and there is no opportunity to allocate costs seperately between customers and stockholders as there is with a private power company. Therefore, under the terms of Sec. 9 of S.1606, a state regulatory body could decide that electric utility consumers of a private power company should not be compelled to pay the Federal tax on nuclear power while consumers of publicly-owned systems in the same State would be required to do so. This is one of the reasons we think the bill is inequitable.

Consumers of public power systems--including those involved in nuclear power plants--have experienced their own rate increases due to a variety of causes. To impose a tax on them, while allowing company customers to evade the tax, seems grossly unfair.

In addition to noting this inequity, it should be pointed out that there is a legal question as to whether or not the Congress can tax political subdivisions in the fashion contemplated by the bill. I have attached to my statement a memorandum addressing that question.

2. "Whether the legislation should require a financial contribution to the TMI-2 cleanup by the major nuclear reactor manufacturers in this country."

Senator Hart suggested on October 20 that any cleanup partnership "has to include the manufacturers and vendors of nuclear powerplants. They are at least as interested in the future of nuclear power as anyone else in this country and I would think it's time for them to step forward and put up some resources to cleanup this plant."

In answer to a query by Senator Hart as to whether manufacturers and vendors of nuclear power plants had been asked to participate in funding of the TMI-2 cleanup, Governor Thornburgh reported that: "There has been no commitment to my knowledge thus far from that portion. Although in the original proposal that I made, I felt it was appropriate for there to be a contribution from that group. Thus far there has been no such indication." Senator Bradley said later in the hearing: "I think I heard in your earlier testimony that you had originally felt that some of the vendors should also have some assessment. I wonder if you don't think it reasonable that they might be brought in for part of the cost?" Governor Thornburgh responded that: "In the original plan and I quote, I said 'I am prepared to ask and hereby call upon the utilities, the manufacturers, and the suppliers of the nuclear industry to commit the $190 million.' That commitment insofar as manufacturers and suppliers of the industry has not been forthcoming as I stated earlier."

Morris Udall, Chairman of the House Committee on Interior and Insular Affairs, said last week that: "Unfortunately, the major reactor vendors and nuclear architectural-engineering firms, to my knowledge, have made no effort to contribute to the cleanup costs, and yet, stand to profit from getting the TMI monkey off their backs."

Electrical World's 1982 annual statistical report published in March of this year shows that generation expenditures represent 70% of projected electric utility spending in 1982 (the anticipated total is $40.8 billion), and that: "Nuclear power continues to account for the bulk of generation expenditures--a projected $16.2 billion in 1982, compared to $15.2 billion in 1981." Electrical World anticipates continued heavy investment in nuclear power; its 1982 annual generation construction survey, published in January, tabulates a total of 73,973,000 kilowatts of nuclear capacity coming on line in this decade and the next. This capacity would be in addition to the 59,321,000 kilowatts of nuclear capacity on-line at the end of 1981.

Clearly, the nation's major nuclear reactor manufacturers have been--and are expected to be--major beneficiaries of utility nuclear plants through provision of nuclear steam supply systems. The breakdown for U.S. operating reactors through 1981 shows the following:

Company	Number of Units
Westinghouse	33
General Electric	26
Babcock & Wilcox	9
Combustion Engineering	8
General Atomic Company	1
Allis-Chalmers	1
	78

While APPA does not support S.1606, should the committee order it favorably reported, it would seem equitable to have vendors and/or architect-engineers taxed along with utilities. I assume that GPU would take a like position in view of the fact that it is sueing Babcock & Wilcox, the manufacturer of its nuclear steam supply system, for $1,000,000,000 charging that the TMI accident was due to deficiencies in the equipment, failure to train properly plant personnel, and neglect in correcting operating procedures after a similar accident at the Davis-Besse nuclear project. (If all nuclear utilities were required by Federal law to contribute to GPU, consideration might be given to GPU sharing with others whatever it wins from B&W).

If the Congress determines that vendors and/or architect-engineers should be compelled to contribute to TMI-2 cleanup costs, then it might wish to establish an appropriate formula based on the number of kilowatts of nuclear capacity which these organizations have helped create on utility systems.

Another group of entities with an apparent keen interest in the financial health of nuclear power is that encompassing banks and investment firms. Representatives of several such entities have testified before this committee, and other Congressional committees, indicating their concern about the financing impact of the TMI-2 accident and supporting a "shared approach". Here it might be possible to develop an assessment based on pro-rata application of the so-called TMI-2 "risk premium" to kilowatts of nuclear capacity which the financial institutions financed.

3. "Whether the legislation should require determination that electric utility rates in the GPU service area are comparable to other electric utility rates in the Northeast region, or in other regions of the country."

Last year in Congressional hearings, Robert Gillnam of New York's Chemical Bank observed that: "The plain fact is that GPU ratepayers in Pennsylvania still pay considerably less than ratepayers in many other regions of the country. Indeed, there are other ratepayers in Pennsylvania who pay more than Met Ed ratepayers." At that same hearing, the head of GPU testified that: "On a system-wide basis rates have increased 50% since the accident," William Kuhns said. "We estimate rate increases of 35% would have been required had there been no accident."

Although GPU ratepayers have paid the price for replacement power, they have yet to make a contribution to the cleanup of TMI-2.

In his statement to Senators on October 20, Dexter Peach, director of the energy and minerals division of the General Accounting Office, addressed the question: What will be the cost to the ratepayers if they pay for the entire decontamination process? Here is his answer:

"GPU has estimated that it will take about $150 million a year to expeditiously move forward with the cleanup effort. The effects of passing this full cost on to customers of the GPU companies will vary depending on the share of TMI ownership, the effect of State revenue taxes, and the allocation of the cleanup costs among the various customer classes. If the $150 million cost were passed through to customers on a per kilowatt hour (kWh) basis, Metropolitan Edison (Met Ed) residential customers would have their rates increased by 1.0 cent per kWh and residential customer rates for Pennsylvania Electric Company (Penelec) and New Jersey Central Power and Light Company (Jersey Central) would increase by 0.3 cent and 0.25 cent per kWh, respectively.

"To better illustrate the potential effect on residential customers, we estimated what the average residential rates would have been in 1980 if the $150 million cleanup cost had been allowed and what effect the increase would have had on the percent of net disposal household income used for electric energy expenses. Based on the per kWh increases identified in the previous paragraph, rates for Met Ed, Penelec, and Jersey Central customers would have increased by 15.5 percent, 6 percent, and 3.8 percent respectively. Even with these increases, however, customers of several neighboring utilities would have paid a higher kWh cost than GPU System customers.

"Adding a cleanup charge to Penelec's and Jersey Central's 1980 actual rates would have made little change in the share of disposable household income spent for electricity by their customers--about 0.1 percent. The added cost for Met Ed customers, however, would have increased their share of disposable income to 2.3 percent--an amount equal to or below five of 16 neighboring utilities in Pennsylvania, New Jersey and New York.

Attached is a tabulation which lists the States alphabetically and shows for each (a) per capita disposable income and comparative ranking (1 is highest) for 1980; and (b) private power companies serving each state, average cost per kilowatthour of service for the months of June, July, and August, 1981 (the GPU service area is a summer-peaking region), and the comparative ranking (1 is highest). Sources of this information are the Bureau of Economic Analysis of the Department of Commerce, and the National Association of Regulatory Utility Commissioners.

With respect to per capita disposable income, New Jersey ranked fourth in the country and Pennsylvania ranked 22. In other words, there were 46 States with lower per capita disposable incomes than New Jersey and 28 with lower per capita disposable incomes than Pennsylvania.

With respect to rates, there were 119 companies out of a total of 216 with rates higher than one or more of the three GPU subsidiaries which own TMI-2.

Of the 28 States which had a per capita disposable income below both New Jersey and Pennsylvania, and where the listed companies have an active interest in a nuclear power plant which might be affected by the provisions of S. 1606, 12 were served by companies which had rates higher than one or more of the GPU subsidiaries, i.e. higher electric bills but less ability to pay.

GPU has been given substantial assistance in cleaning up the accident at TMI-2, including the following:

- Electric utilities, individually and collectively through the Electric Power Research Institute, have contributed expert advice and manpower to aiding GPU; they continue to do so. In 1981, EPRI targeted $17.3 million of its 1981-86 research and development budget for TMI-2 related matters; the program would not provide direct cleanup funding but was designed to obtain generic information about the accident and recovery effort and make it available throughout the electric utility industry.
- The General Accounting Office found last year that five primary Federal agencies (DOE, FERC, EPA, NRC, and FEMA) spent $142.9 million during 1979 and 1980 in direct response to the TMI-2 accident, and that those agencies expected

to expend another $132.3 in 1981 for a total of $275,195,750, including DOE costs for various support services such as providing radiological assistance teams and atmospheric release advice and EPA off-site monitoring efforts.

- DOE Secretary Edwards stated on October 20 that the Federal government has agreed to expend $123 million on the TMI-2 clean-up for the purposes of (a) obtaining and disseminating R&D information on reactor safety of general interest to the Nation's nuclear utilities and providing GPU with technology of value in conducting the cleanup; (b) removing, processing (including R&D), and disposing of abnormal radioactive wastes not disposable at commercial sites; and (c) facilitating removal, inspection, evaluation, and disposition of the damaged reactor core. "Costs of handling portions of the waste and damaged reactor core that are not needed for research and development purposes will be reimbursed," Secretary of Energy Edwards told this committee on October 20, 1981.

However, on April 7, DOE announced an expanded plan. Under the revised approach, DOE will (a) acquire ownership of the entire damaged TMI-2 core, (b) assume title to and responsibility for the damaged fuel when it leaves the generating plant site boundary (GPU will reimburse DOE for shipping to a DOE waste disposal location); (c) fund interim storage, survey of the core, and selection of samples for detailed examinations--a program expected to take 3-6 years; and (d) collect from GPU costs associated with storage (other than the R&D just mentioned) and disposal "up to a reasonable value" but not in excess of what GPU would incur in storage of a TMI type core in a TMI-1 fuel pool awaiting ultimate disposition, and for ultimate disposal in a Government repository.

Any additional cost to the Federal government and the value to GPU of this "agreement in principle" signed by DOE and GPU cannot be fully evaluated until the completion of further negotiations and execution of a written contract (a copy of a DOE press release describing the new arrangements is attached).

DOE Secretary Edwards reportedly believes that this entire core program can be conducted within the limit of $123 million which the Administration has proposed for the maximum DOE contribution to TMI-2 related activities. A DOE official has suggested that the Federal government might reprocess the core and purchase residual useful fuel for $50 million. He said that if DOE takes the core, GPU could speed up its defueling effort by more than six months while keeping its costs at a minimum. Meanwhile, the General Accounting Office has reported that the cleanup schedule proposed by GPU and its project contractor, the Bechtel Corporation, calls for removal of the fuel core as Phase III of the effort. Major activities included in this phase would be construction of a reactor vessel mock-up for training, refurbishing a polar crane, disconnecting control rod mechanisms, removal of the plenum chamber, inspection of the core, and removal of damaged fuel. Total estimated cost for these activities is $154 million.

On October 20, Shelby Brewer, DOE Assistant Secretary for Nuclear Energy, told Senators that: "Our commitment is to move offsite something like 15% of the core for examination. The remainder of the core is to be stored on site." That plan has been changed--to the benefit of GPU.

- GPU has been aided by special rates it has paid for wholesale power to replace that lost at TMI. The Federal Energy Regulatory Commission accepted a settlement agreement reached by GPU and other member utilities of the Pennsylvania-New Jersey-Maryland (PJM) power pool. The agreement allowed GPU to purchase replacement power to cover generating losses resulting from its two TMI units at rates below the level it would normally pay under the PJM split-the-savings rate schedule. In other words, consumers of other pool members paid more for power so that GPU consumers could pay less.

"The accident was initiated by mechanical malfunctions in the plant and made much worse by a combination of human errors in responding to it," said the President's

Commission on the Accident at Three Mile Island. TMI-2 is not the only plant which has been affected by mechanical problems or human miscalculation.

- The Nuclear Regulatory Commission estimated that it will cost the Florida Power & Light Company $460 million to replace degraded steam generators. It has not been suggested by FP&L or other utilities that the company be reimbursed for this expenditure by imposition of a Federal tax on other nuclear units.

- Costs of shutting down the nuclear power plant at Indian Point outside New York City, suggested by the Union of Concerned Scientists who contend that the units are too close to the city, could range from $2,500,000,000 to $17,400,000,000 according to four separate studies made by UCS, the Congressional Reference Service, the General Accounting Office, and the Rand Corporation. But there is no present plan to provide for a recovery of the possible costs of such an action through a Federal nuclear capacity tax.

- Sunk investment in two nuclear power plants of the Washington Public Power Supply System terminated in the face of declining load growth and financial difficulties are $2,250,000,000. A Federal tax to cover this cost has not been proposed.

If a Federal tax program is put in place to provide financial assistance to GPU, why shouldn't other utilities with problems seek amendments to add their names as beneficiaries?

In its statement last week about this legislation, TVA said:

"TVA believes that the future of nuclear power in this country depends on the nuclear industry and utility executives shouldering the responsibility of ensuring that nuclear plants are safely built and operated. Although this legislation will not spend tax dollars, its enactment will create an impression that the Federal Government will always 'bail out' utilities that experience a nuclear plant accident. This will not encourage nuclear plant operators to accept the responsibility for their actions."

PUBLICLY OWNED ELECTRIC UTILITY SYSTEMS' NUCLEAR POWER PLANT OWNERSHIP

Revised 3/6/81

PUBLICLY OWNED UTILITY SYSTEM	PLANT	STATUS* (Commercial operation date)	CAPACITY (MW)	PUBLIC SYSTEM'S SHARE OF PLANT %SHARE	MW SHARE
Alachua, Fla.	Crystal River #3	CO (1977)	825	.0779	.64
Anaheim, Calif.	San Onofre #2 & 3	CP (1982 & 1983)	2,200	3.16	69.52
Austin, Texas	South Texas #1 & 2	CP (1984 & 1986)	2,500	16.0	400.0
Burlington, Vt.	Pilgrim #2[3] Millstone #3	CP (1986)	1,156	.3650	4.22
Bushnell, Fla.	Crystal River #3	CO (1977)	825	.0388	.32
Chicopee, Mass.	Millstone #3	CP (1986)	1,150	1.35	15.61
Dalton, Georgia	Vogtle #1 & 2 Hatch #1 & 2	CP (1984 & 1987) CO (1975 & 1978)	2,226 1,581	1.60 2.20	35.62 34.78
Eugene, Oregon	Trojan	CO (1976)	1,130	30.0	339.0
Gainesville, Fla.	Crystal River #3	CO (1977)	825	1.407	11.61
Hudson, Mass.	Pilgrim #2[3] Seabrook #1 & 2	CP (1984 & 1986)	2,300	.07956	1.83
Kissimmee, Fla.	Crystal River #3	CO (1977)	825	.6754	5.57
Leesburg, Fla.	Crystal River #3	CO (1977)	825	.8244	6.80
Nebraska Pub. Pwr. Dis. Lincoln, Nebraska[1]	Cooper	CO (1974)	778	50.0 12.5	389.0 97.0
Los Angeles, Calif.[2]	Palo Verde #1-3	CP (1983, 1985, 1987)	3,810	5.7	217.17

[1] participation sales contract only; no plant ownership

[2] will become effective 1983

[3] cancelled

PUBLICLY OWNED UTILITY SYSTEM	PLANT	STATUS* (Commercial operation date)	CAPACITY (MW)	PUBLIC SYSTEM'S SHARE OF PLANT %SHARE	MW SHARE
Lyndonville, Vt.	Millstone #3	CP (1986)	1,150	.000487	.560
Massachusetts Mun. Wholesale Electric Company	Pilgrim #2[3]				
	Seabrook #1 & 2	CP (1984 & 1986)	2,300	11.59	266.8
	New England #1 & 2[3]				
	Millstone #3	CP (1986)	1,150	4.8[4]	55.0
	Montague #1 & 2[3]				
Mun. Electric Authority of Georgia	Vogtle #1 & 2	CP (1985 & 1987)	2,300	17.7	408.0
	Hatch #1 & 2	CO (1975 & 1978)	1,542	17.7	269.0
New Smyrna Beach, Fla.	Crystal River #3	CO (1977)	825	.5608	4.63
N. Carolina Mun. Power Agency #1	Catawba #2	CP (1985)	1,145	75.0	857.75
Ocala, Fla.	Crystal River #3	CO (1977)	825	1.3333	11.0
Omaha Public Power District	Ft. Calhoun	CO (1973)	459	100.0	459.0
Orlando, Fla.	Crystal River #3	CO (1977)	825	1.6015	13.21
Orlando Utilities Comm.	St. Lucie #2	CP (1983)	850	6.08951	48.84
Florida Mun. Pwr. Agy.				8.806	70.6
Power Authority State of N.Y.	Indian Point #3	CO (1976)	965	100.0	965.0
	Fitzpatrick	CO (1975)	821	100.0	821.0
Riverside, Calif.	San Onofre #2 & 3	CP (1982 & 1983)	2,200	1.79	39.38
Sacramento Mun. Utility Dist.	Rancho Seco #1	CO (1975)	913	100.0	913.0

[3] cancelled

[4] in process of acquiring additional 5.18% interest

PUBLICLY OWNED UTILITY SYSTEM	PLANT	STATUS* (Commercial operation date)	CAPACITY (MW)	PUBLIC SYSTEM'S SHARE OF PLANT %SHARE	MW SHARE
Salt River Project	Palo Verde #1-3	CP (1983, 1985 & 1987)	3,810	23.4	891.54
San Antonio, Texas	South Texas #1 & 2	CP (1984 & 1986)	2,500	28.0	700.0
Sebring, Fla.	Crystal River #3	CO (1977)	825	.4473	3.69
S. Carolina Public Service Authority	Summer	CP (1982)	900	33.3	300.0
Tallahassee, Fla.	Crystal River #3	CO (1977)	825	1.3333	11.0
Taunton, Mass.	New England #1 & 2[3]				
	Pilgrim #2[3]				
	Seabrook #1 & 2	CP (1983 & 1985)	2,400	.10	2.40
Washington Public Power Supply	N-Reactor (Hanford Generating Project)	CO (1966)	850	50.0	425.0
	WPPSS #1	CP (1985)	1,218	100.0	1,218.0
	WPPSS #2	CP (1983)	1,100	100.0	1,100.0
	WPPSS #3	CP (1986)	1,242	70.0	869.4
	WPPSS #4[3]	CP (1986)	1,218	100.0	1,218.0
	WPPSS #5[3]	CP (1987)	1,242	90.0	1,117.8
	TOTAL LOCAL AND STATE PUBLIC POWER SYSTEMS:		59,356		14,688.29
Tennessee Valley Authority	Browns Ferry #1-3	CO (1973, 75, 77)	3,456	100.0	3,456
	Sequoyah #1 & 2	CO (1981 & 1982)	2,442	100.0	2,442
	Watts Bar #1 & 2	CP (1984 & 1985)	2,540	100.0	2,540
	Bellefonte #1 & 2	CP (1984-1987) CP (1985-1988)	2,664	100.0	2,664
	TOTAL FEDERAL PUBLIC POWER SYSTEMS:		11,102		11,102
	TOTAL LOCAL, STATE AND FEDERAL PUBLIC POWER SYSTEMS:		70,458		25,790.29

[3] cancelled

* Status: CP - construction permit; CO - in commercial operation

THREE MILE ISLAND

WHEREAS, the American Public Power Association formed a special Task Force on the Financial Impact of Three Mile Island to recommend an Association position on utility financial issues growing out of the 1979 incident at the Three Mile Island nuclear power plant operated by a subsidiary of General Public Utilities Corporation in Pennsylvania, and

WHEREAS, the Task Force identified a series of TMI issues and positions which served as the basis for an APPA statement presented to the Subcommittee on Energy and Environment of the House Committee on Interior and Insular Affairs on May 5;

NOW, THEREFORE, BE IT RESOLVED: that the American Public Power Association endorses the views of the APPA Task Force on the Financial Impact of Three Mile Island as follows:

1. NRC holds a key role in determining the financial fate of General Public Utilities, and can aid the utility by (a) authorizing startup of the undamaged TMI-1 as it has allowed similar Babcock and Wilcox reactors to return to service following post-TMI corrective actions; (b) expediting regulatory actions relative to the cleanup at TMI-2; and (c) facilitating removal, transport, and storage of radioactive waste from the TMI plant.

2. Pennsylvania and New Jersey public service commissions should take appropriate regulatory action to (a) recognize the value of TMI-1 when it is placed in service and (b) permit rates adequate to cover cleanup costs at TMI-2.

3. Utilities could secure valuable "self insurance experience" by loaning personnel to GPU to aid in the TMI cleanup, and such action might mitigate risk

at all nuclear power plants and help lower insurance rates, but individual utilities should not be compelled to collect dollar contributions from their consumers to finance the cleanup.

4. The Department of Energy should provide "research and development" assistance to GPU with resultant information made available to utilities and the public, and DOE should help in the removal, transport, and storage of radioactive waste.

5. Private nuclear property damage insurance coverage should be expanded to the level of $500 million by commercial companies, who claim the capacity to do so, and this development should be coupled with a utility retrospective premium adjustment program which could assure an annual payout of a specified amount above that level in the event of a cleanup requirement in excess of $500 million. This approach would (a) make Federal legislation unnecessary and leave risk sharing in the non-Federal sector, (b) acknowledge the remote possibility of major accidents but provide a nuclear utility "safety net" in case of a catastrophic loss, and (c) protect consumers who may be served by a utility which suffers a future accident but without large insurance premium outlays.

6. Federal administrative or legislative action should be considered if it is necessary to mandate nuclear utility cooperation or override other obstacles to a prudent approach to protecting consumers against future utility property loss. A Federally prescribed property insurance program might be patterned on the existing Price-Anderson public liability program.

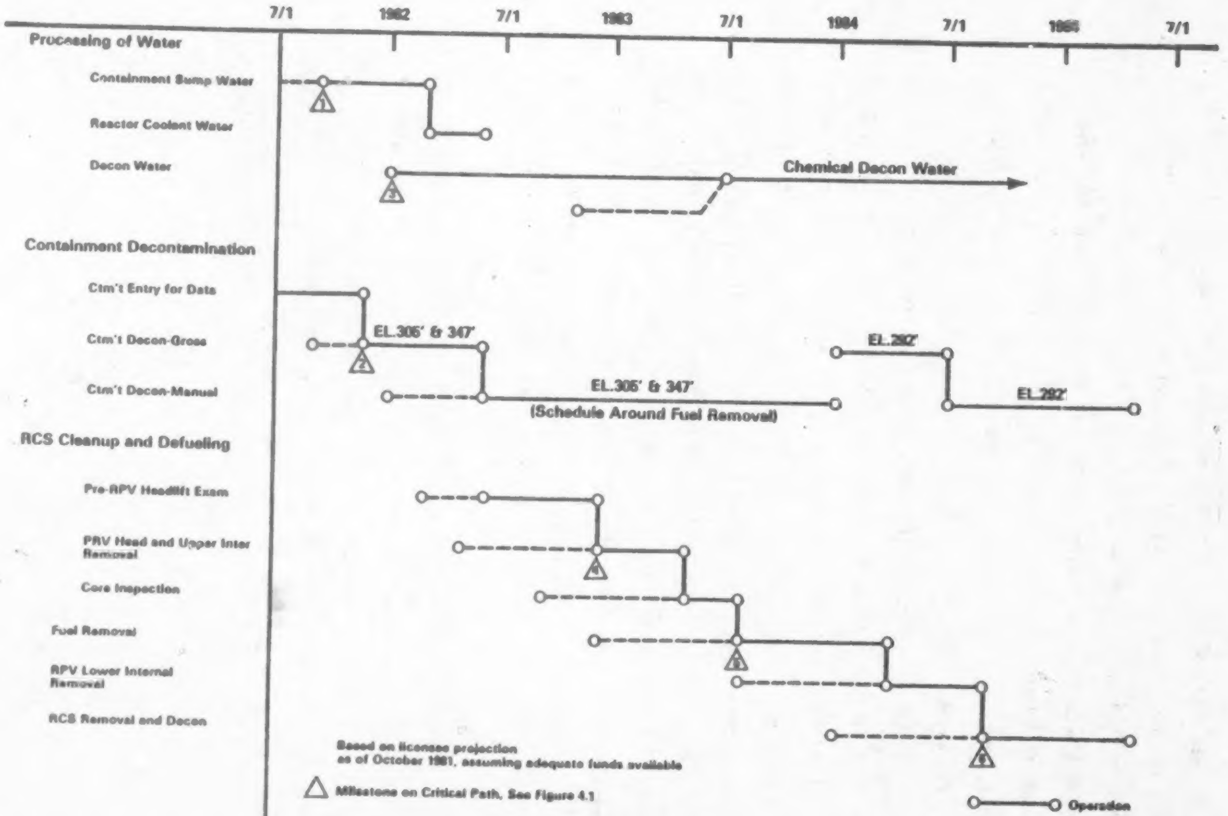

Figure 4.2
Master Schedule of Major NRC/Licensee Actions

MEMORANDUM

TO: Larry Hobart
Deputy Executive Director

FROM: Ted Handel
Assistant Legislative Counsel

RE: Municipal Liability For Proposed Three Mile Island Clean-Up Assessment

The Congress is presently considering two bills, S. 1606 and H.R. 5963, that would require utilities with nuclear generating facilities to contribute towards the clean-up of Three Mile Island Unit 2 ("TMI-2").

This legislation originates from a proposal by Pennsylvania Governor Richard Thornburgh to apportion the clean-up costs among the groups that he determined have an interest in the timely resolution of this matter. One group, of course, is the utility industry. In recognition of this, the Board of Directors of the Edison Electric Institute ("EEI") endorsed the governor's proposal. EEI believes that all utilities have suffered financially because of the TMI incident, but given the alleged financial condition of the facility's owner, this problem will not be corrected without a contribution from the industry. EEI also has attempted to commit the industry to provide $192 million, or 25 percent of the estimated clean-up costs. To ensure that this commitment will be fulfilled, these bills were introduced to provide a means for enforcing this "voluntary agreement" against utilities.

The measures, however, presently apply only to nuclear utilities. S. 1606 imposes an annual fee of $.28363 for each kilowatt of electric power authorized by a utility's construction permit or operating license. A utility must have one operating facility before it is required to pay this fee. The assessment is payable either to the U.S. Treasury, or a trust established by Metropolitan Edison and Pennsylvania Electric. Overall, utilities would contribute $170 million between 1982 and 1987; however, an individual utility's contribution would not exceed $1.6 million annually. In contrast, under H.R. 5963, utilities will contribute $225 million between 1983 and 1988. The annual assessment, $37.5 million, would be divided equally between a "pro rata share...(of)...the total sales of electricity for ultimate consumption and not for resale" in a given year, and a share based "on the design megawatt rating of the nuclear reactors operated or under construction." These monies would be paid to a trust whose purpose is to fund the decontamination of TMI-2.

The policy advocated by these bills appears to be without precedent. In effect, the federal government is mandating that private and public entities provide monetary assistance to a private corporation that claims it cannot meet certain financial and service obligations. The federal government itself has provided financial assistance in such circumstances; for example, in the form of loan guarantees for Lockheed and Chrysler. However, there does not appear to be any instance where Congress has authorized the type of scheme described above, although intensive research might reveal such a case.

On its face, it would appear that Congress has the authority under the Commerce Clause of the Constitution to enact this legislation and apply it to both private and public entities. The Supreme Court has defined this authority broadly, permitting Congress to regulate virtually any matter that it determines affects interstate commerce, including those items that may move exclusively intrastate but have a national impact. Gibbons v. Ogden, 9 Wheat. 1 (1824), Fry v. United States. 421 U.S. 542, 547 (1975). Thus, the findings made in the bills that the TMI-2 assessment is needed to promote the interests of interstate commerce and to protect the public health, safety and welfare should be sufficient to meet constitutional requirements.

Accordingly, for privately owned utilities, there is little question that Congress may impose this assessment against them. The Supreme Court has held that Congress may exercise its regulatory authority against private activities, provided there is a rational basis for its action. Heart of Atlanta Motel v. United States, 379 U.S. 241, 258 (1964). S. 1606, for example, suggests that investors lack confidence in nuclear utilities because of the inability to bring the TMI-2 accident to an end. Consequently, utility securities have been adversely affected, causing consumers' electric rates to rise. Also, the bill notes the importance of nuclear energy to fulfilling the nation's energy needs. These findings, together with statements by EEI indicating that their contribution can bring this matter to an expeditious conclusion, provide a sufficient basis for Congress to enact legislation that will require private utilities to fulfill their association's commitment.

In the case of publicly owned utilities, however, the issue is unclear. Despite Congress' ability to reach a broad spectrum of issues under the Commerce Clause, it cannot exercise this authority when it "force(s) directly upon the States...choices as to how essential decisions regarding the conduct of integral governmental functions are to be made." National League of Cities v. Usery, 426 U.S. 833, 853 (1976) (emphasis added). In a recent case, the Court clarified its holding and established three criteria that must be met to make a finding that congressional action interferes with such a function:

1. The statute must regulate "States as States;"

2. It must regulate matters "that are indisputably 'attributes of state sovereignty;'"

3. State compliance with the law "would directly impair their ability 'to structure integral operations in areas of traditional functions.'" Hodel v. Virginia Surface Mining and Reclamation Association, 101 S.

Ct. 2352, 2366 (1981).

If Congress enacts either S. 1606 or H.R. 5963, it may interfere with an "integral governmental function" of the states. The function at issue here is the authority vested in states to regulate the affairs of their political subdivisions, including municipal corporations. As Charles Rhyne says, "(s)ubject to state constitutional limitations, the power of...state legislatures over municipal corporations is absolute. It may create, change, divide and even abolish them at its pleasure and as it deems in public good." Rhyne, The Law of Local Government Operations, Sec.2.1. He goes on to say, "(t)he legislature...may limit municipal powers to tax, assess, borrow, contract, etc." Rhyne, Sec. 2.2.

The legislatures of many states have imposed such restrictions on municipal corporations, particularly ones limiting expenditure of public funds. For example, over 30 states have constitutional or statutory provisions that prohibit a municipality from loaning money or extending credit to an individual, association or corporation for a non-public purpose. These restrictions were enacted over 100 years ago because of the financial problems that were created after towns tried to bring railroads to their areas. In certain instances, cities actually invested in railroads and, thereafter, the railroads went bankrupt, taking their investors with them.

These restrictions have been applied in different situations, including expenditure of funds by public utilities. Initially, it should be noted that revenues collected by such utilities are public monies. Hunter v. City of Roseburg, 156 P. 267, 272 (1916). During the 1920's, a few jurisdictions held that cities could not spend public funds to make improvements for privately owned transit systems. City of Cincinnati v. Harth, 128 N.E. 263, 13 A.L.R. 308 (1920). In the case of electric utilities, a majority of state courts have held that state revenues could not be used to relocate utility facilities along highways, although a few have reached a contrary result. Washington State Highway Commission v. Pacific Northwest Bell Telephone Company et. al., 367 P.2d 605, 610 (1961) (citations omitted), contra., Jones v. Burns, 357 P.2d 22 (1960).

In those states where such restrictions exist, it is not clear that publicly owned utilities can pay the TMI-2 assessment and comply with these provisions. Arguably, these utilities' ratepayers may gain financial benefits similar to those provided to customers served by private utilities. Further, under S. 1606, there may not be a problem because the funds may be paid to the federal government. Also, this bill makes the Secretary of Energy responsible for determining whether funds may be disbursed for clean-up activities. However, the fact remains that the ultimate beneficiary of these funds is a private corporation -- General Public Utilities and its subsidiaries.

When the issue is viewed in this light, the matter squarely focuses on whether Congress has the authority to override these state prohibitions against expenditure of public funds by its political subdivisions. One means of resolving this question is to evaluate the impact that this legislation will have on affected systems, as the court did in National League of Cities. The financial contribution required of publicly owned utilities under S. 1606 has not been calculated. However, Representative Ertel has provided an estimate of the costs that certain utilities will incur under H.R. 5963. For example, the Omaha Public Power District will pay $161,000 annually and the Nebraska Public Power District will contribute $212,000. In addition, the yearly assessment of the Tennessee Valley Authority will be nearly $3.4 million; monies that will come from charging higher rates to the publicly owned systems that TVA serves. This is clearly not an insubstantial expenditure of public funds.

The question remains, however, whether this legislation will directly affect, and thereby displace, the authority of states over a regulatory area that has been reserved to them traditionally. The answer to this rests on an analysis of the criteria set forth in Hodel.

Initially, the law must "regulate...'States as States'" or, in this case, their political subdivisions. In one respect, neither bill does this since they both expressly provide that states do not have to relinquish their regulatory authority over utilities in determining who will pay this fee (ie., utility stockholders or ratepayers). However, this is inapplicable to most publicly owned utilities because they are self-regulated. Utility governing boards will have no choice but to charge rates to their ratepayer/owners that reflect this assessment. By the terms of these bills, Congress will not only be imposing this regulatory decision, but also will be establishing an enforcement mechanism to ensure that this fee is paid.

Interestingly. Congress is not only requiring utilities to pay this fee, but also, in effect, is granting them an exemption from provisions of certain state laws. As indicated previously, many states have longstanding prohibitions against political subdivisions contributing public monies to private corporations in circumstances such as those at issue here. The states have enacted these restrictions pursuant to their authority to oversee and regulate the affairs of political bodies created under their laws. Nevertheless, Congress, by enacting the TMI-2 clean-up legislation, will be overriding the states' regulatory authority in this area. Thus, the second criterion of Hodel, requiring that Congress regulate a matter that is an attribute of state sovereignty, would be satisfied.

Finally, if states or their political subdivisions attempt to pay this assessment, it will directly impair the states' ability to structure their integral operations. This issue may be viewed from two perspectives. First, as described above, it will impair states' authority to regulate their political subdivisions. Equally important, it will force states and political subdivisions to abdicate their authority to determine how public monies raised within their area should be disbursed. Generally, the restrictions discussed above were enacted to ensure that such monies were used to promote the public health, safety or welfare. Although the bills contain findings suggesting that the entire nation will benefit from this legislation, statements contradicting these findings suggest that the public as a whole will receive little, if anything, from it. Rather, the real beneficiaries will be General Public Utilities and its stockholders and ratepayers. Thus, this legislation would establish a precedent whereby Congress could abrogate state authority solely to benefit the citizens of one limited segment of the country.

Overall, a number of factors suggest that this legislation is invalid. Substantial revenues from publicly owned utilities will have to be expended to pay the mandated fees. Moreover, payment of these fees will require states and their political subdivisions to violate longstanding legal prohibitions against expenditure of public monies for private purposes such as those advanced in these measures. Consequently, the ability of states to regulate matters traditionally assigned to them under the Constitution will be significantly displaced, if not destroyed. By comparison, the authority of Congress to regulate matters having a national scope will hardly be impaired because the public as a whole will derive only marginal benefits from the enactment of the TMI-2 clean-up assessment. Accordingly, it would appear that Congress may not lawfully require publicly owned utilities to make a financial contribution to this endeavor.

Ranking of Disposable Income and Utility Rates

	Per Capita Disposable Income				Average Cost
State	Income	Rank	Utility	Rank	¢ per kWh
Alabama	$6,349	49	Alabama Power	135	$ 6.00
Alaska	$10,322	1	Alaska Electric Light Power	164	5.31
Arizona	7,406	33	Arizona Public Service	67	7.31
			Citizens Utilities	41	7.83
			C.P. National	175	5.12
			Salt River Project	45	7.71
			Tucson Electric Power	119	6.34
Arkansas	6,183	50	Arkansas Power & Light	81	6.97
			Arkansas Power & Light*	76	7.08
			Empire District Electric	188	4.83
			Oklahoma Gas & Electric	42	7.81
			Southwestern Electric Power	198	4.49
California	9,076	5	Pacific Gas & Electric	150	5.60
			San Diego Gas & Electric	14	9.77
			Southern Calif. Edison	89	6.85
Colorado	8,350	14	Home Light & Power	160	5.39
			Public Service of Colorado	142	5.86
			Southern Colorado Power	170	5.20
Connecticut	9,664	3	Connecticut Light & Power	37	7.92
			Hartford Electric Light	31	8.30
			United Illuminating	8	10.62
Delaware	8,233	15	Delmarva Power & Light	16	9.58
District of Columbia	9,679	2	Potomac Electric Power	130	6.06
Florida	7,701	26	Florida Power	47	7.66
			Florida Power & Light	77	7.07
			Florida Public Utilities	51	7.56
			Gulf Power	78	7.03
			Tampa Electric	62	7.40
Georgia	6,712	41	Georgia Power	190	4.79
			Savannah Electric & Power	59	7.42
Hawaii	8,182	16	Hawaiian Electric	3	11.99
			Hawaii Electric Light	5	11.70
			Maui Electric	6	11.67

* former Arkansas-Missouri Power Company Service Area

State	Per Capita Disposable Income	Rank	Utility	Rank	Average Cost ¢ per kWh
Idaho	$6,967	37	Citizens Utilities	209	$ 2.91
			Idaho Power	206	3.56
			Pacific Power & Light	214	2.24
			Utah Power & Light	101	6.64
			Washington Water Power	215	2.12
Illinois	8,913	7	Central Illinois Light	48	7.64
			Central Illinois Public Svc.	43	7.79
			Commonwealth Edison	33	8.16
			Illinois Power	113	6.47
			Interstate Power	133	6.03
			Iowa-Illinois Gas & Electric	38	7.92
			Mt. Carmel Public Utility	49	7.61
			Sherrard Power System	137	5.94
			South Beloit Water, Gas & Elec.	180	4.97
			Union Electric	139	5.91
Indiana	7,573	30	Indiana & Michigan Electric	172	5.19
			Indianapolis Power & Light	177	5.04
			Northern Indiana Public Serv.	68	7.30
			Public Service Indiana	111	6.49
			Southern Indiana Gas & Electric	149	5.60
Iowa	6,789	27	Interstate	96	6.76
			Iowa Electric	94	6.79
			Iowa-Illinois	50	7.58
			Iowa Power	65	7.33
			Iowa Southern	131	6.05
			Union	156	5.50
Kansas	8,474	10	Kansas City Power & Light	64	7.35
			Kansas Gas & Electric	152	5.58
			Kansas Power & Light	144	5.77
			Midwest Energy	75	7.13
			Western Power Division of Cen. Tel. & Utilities	118	6.37
Kentucky	6,558	46	Kentucky Power	194	4.63
			Kentucky Utilities	165	5.30
			Louisville Gas & Electric	158	5.44
			Union Light, Heat & Power	167	5.29
Louisiana	7,078	36	Central Louisiana Electric	93	6.80
			Gulf States Utilities	127	6.09
			Louisiana Power & Light	134	6.02
			Southwestern Electric Power	199	4.28
Maine	6,733	39	Bangor Hydro-Electric	44	7.74
			Central Maine Power	87	6.86
			Maine Public Service	97	6.74

State	Per Capita Disposable Income	Rank	Utility	Rank	Average Cost ¢ per kWh
Maryland	$8,419	11	Baltimore Gas & Electric	88	$ 6.86
			Conowingo Power	34	8.09
			Delmarva Power & Light	21	9.01
			Potomac Edison	148	5.65
			Potomac Electric Power	74	7.17
Massachusetts	8,356	13	Boston Edison	24	8.63
			Cambridge Electric Light	35	8.03
			Commonwealth Electric	32	8.28
			Eastern Edison	29	8.50
			Manchester Electric	20	9.13
			Massachusetts Electric	22	8.94
			Western Mass. Electric	10	10.17
Michigan	8,356	17	Consumers Power		5.69
			Detroit Edison	146	6.70
				98	
Minnesota	7,917	19	Interstate Power	102	6.63
			Minnesota Power & Light	192	4.67
			Northern States Power	169	5.23
			Northwestern Wisconsin Elec.	153	5.57
			Ottertail Power	115	6.43
Mississippi	5,571	51	Mississippi Power	107	6.54
			Mississippi Power & Light	54	7.52
Missouri	7,477	32	Arkansas Power & Light	136	5.96
			Empire District Electric	187	4.83
			Kansas City Power & Light	114	6.45
			Missouri Edison	90	6.84
			Missouri Power & Light	125	6.16
			Missouri Public Service	63	7.40
			Missouri Utilities	145	5.73
			St. Joseph Light & Power	58	7.44
			Union Electric	162	5.38
Montana	7,200	35	Black Hills Power & Light	108	6.54
			Montana-Dakota Utilities	168	5.27
			Montana Power & Light	207	3.27
			Pacific Power & Light	212	2.60
			Washington Water Power	216	2.00
Nevada	8,714	9	Nevada Power	202	4.02
			Sierra Pacific Power	69	7.30
New Hampshire	7,675	29	Concord Electric	40	7.86
			Connecticut Valley Electric	73	7.21
			Exeter & Hampton Electric	80	6.98
			Granite State Electric	18	9.21
			Public Service of New Hampshire	25	8.63

State	Per Capita Disposable Income	Rank	Utility	Rank	Average Cost ¢ per kWh
New Jersey	$9,093	4	Atlantic City Electric	9	$10.54
			Jersey Central Power & Light	12	9.90
			Public Service Electric & Gas	15	9.61
			Rockland Electric	7	11.03
New Mexico	6,888	38	El Paso Electric	39	7.88
			New Mexico Electric Service	141	5.88
			Public Service of NM	66	7.31
			Southwestern Public Service	126	6.16
			Texas-New Mexico Power	61	7.41
New York	8,381	12	Central Hudson Gas & Electric	11	9.93
			Consolidated Edison of NY	1	15.67
			Long Island Lighting	2	12.72
			NY State Electric & Gas	71	7.29
			Niagara Mohawk Power	116	6.40
			Orange & Rockland Utilities	4	11.92
			Rochester Gas & Electric	79	7.02
No. Carolina	6,674	44	Carolina Power & Light	121	6.24
			Duke Power	183	4.95
			Nantahala Power & Light	196	4.61
			Virginia Electric & Power	109	6.53
No. Dakota	7,374	34	Montana-Dakota Utilities	123	6.22
			Northern States Power	193	4.63
			Otter Tail Power	86	6.87
Ohio	7,910	20	Cincinnati Gas & Electric	163	5.37
			Cleveland Electric Illuminating	30	8.49
			Columbus & So. Ohio Electric	128	6.08
			Dayton Power & Light	46	7.67
			Monongahela Power	197	4.59
			Ohio Edison	57	7.45
			Ohio Power	174	5.17
			Toledo Edison	28	8.54
Oklahoma	7,759	25	Empire District Electric	143	5.80
			Oklahoma Gas & Electric	161	5.38
			Public Service of Oklahoma	151	5.59
			Southwester Public Service	100	6.68
Oregon	7,803	24	C.P. National	203	3.74
			Idaho Power	205	3.65
			Pacific Power & Light	201	4.04
			Portland General Electric	200	4.26

State	Per Capita Disposable Income	Rank	Utility	Rank	Average Cost ¢ per kWh
Pennsylvania	$7,844	22	Duquesne Light	36	$ 8.02
			Metropolitan Edison	72	7.24
			Pennsylvania Electric	120	6.34
			Pennsylvania Power	85	6.89
			Pennsylvania Power & Light	138	5.94
			Philadelphia Electric	26	8.59
			UGI Luzern Electric Div.	52	7.56
			West Penn Power	191	4.77
Rhode Island	7,840	23	Blackstone Valley	27	8.58
			Narragansett Electric	19	9.15
			Newport Electric	60	7.42
South Carolina	6,399	47	Carolina Power & Light	106	6.56
			Duke Power	186	4.89
			Lockhart Power	184	4.93
			S. Carolina Electric & Gas	83	6.90
South Dakota	6,566	45	Black Hills Power & Light	99	6.69
			Iowa Public Service	166	5.29
			Montana-Dakota Utilities	53	7.55
			Northern States Power	176	5.11
			Northwestern Public Service	17	9.22
			Otter Tail Power	92	6.80
Tennessee	6,707	42	Kingsport Power	173	5.17
Texas	8,141	18	Central Power & Light	103	6.62
			Dallas Power & Light	56	7.51
			El Paso Electric	23	8.93
			Gulf States Utilities	91	6.83
			Houston Lighting & Power	110	6.50
			Southwestern Electric Power	195	4.61
			Southwestern Electric Service	112	6.47
			Southwestern Public Service	95	6.77
			Texas Electric Service	82	6.97
			Texas-New Mexico Power	70	7.30
			Texas Power & Light	122	6.23
			West Texas Utilities	147	5.66
Utah	6,320	49	Utah Power & Light	55	7.52
Vermont	6,725	40	Central Vermont Public Service	155	5.50
			Green Mountain Power	181	4.97
Virginia	7,872	21	Appalachian Power	157	5.50
			Delmarva Power & Light	13	9.84
			Old Dominion Power	189	4.81
			Potomac Edison	140	5.89
			Potomac Electric Power	84	6.89
			Virginia Electric & Power	105	6.57

State	Per Capita Disposable Income	Rank	Utility	Rank	Average Cost ¢ per kWh
Washington	$8,836	8	Pacific Power & Light	208	$ 3.22
			Puget Sound Power & Light	211	2.77
			Washington Water Power	213	2.47
West Virginia	6,681	43	Appalachian Power	179	5.01
			Monongahela Power	171	5.20
			Potomac Edison	154	5.56
			Virginia Electric & Power	124	6.17
			Wheeling Electric	159	5.41
Wisconsin	7,678	28	Lake Superior District Power	132	6.05
			Madison Gas & Electric	185	4.93
			Northern States Power	182	4.95
			Superior Water & Light & Power	178	5.01
			Wisconsin Electric & Power	117	6.38
			Wisconsin Power & Light	104	6.59
			Wisconsin Public Service	129	6.08
Wyoming	8,977	6	Cheyenne Light, Fuel & Power	210	2.88
			Wyoming Power & Light	204	3.69

SOURCES: "Survey of Current Business", Bureau of Economic Analysis, U.S. Department of Commerce, April 1981, Vol. 61 No. 4.

Residential Electric Bills, Summer, 1981, National Association of Regulatory Utility Commissioners, Report 192a, Washington, D.C.

AMERICAN PUBLIC POWER ASSOCIATION
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WILLIAM C. WALBRIDGE
Sacramento Municipal Utility District
Sacramento, California
ROBERT C. YOUNG
Burlington, Vermont

June 4, 1982

Jim Curtiss
United States Senate
Committee on Environment and
Public Works
Washington, D. C. 20510

Dear Jim:

Enclosed are the answers to Senator Simpson's questions of me arising from the May 20 hearing on TMI-2.

Sincerely,

Larry

Larry Hobart
Deputy Executive Director

LH/mb

Enclosure

ANSWERS TO QUESTIONS FROM SENATOR SIMPSON TO LARRY HOBART OF AMERICAN PUBLIC POWER ASSOCIATION:

1. *One of the objectives of the Thornburgh proposal, as you know, was to spread the cost of the cleanup program among those who would ultimately benefit from the cleanup of TMI-2. Will your members accrue any benefit either in the form of a reduced "risk premium" paid on borrowed funds or as a result of gains realized through DOE's research and development activities?*

As I noted in my May 20 prepared statement, quoting the firm of L. R. Rothschild, Unterberg, Towbin, "the risk component of borrowing costs is difficult to measure and cannot be reliably allocated to specific events." Furthermore, according to securities analysts cited in my testimony:

"Significantly, nuclear utilities are on many buy lists, as nuclear energy by itself is not widely considered a deterrent to investors. Nuclear units on line, or close to completion, are 'no drawback to investment,' says Doris Kelley, Senior industry analyst at Merrill Lynch. Operating nuclear plants are assets to companies' rate bases, she notes, and those near completion soon should be.

"Nuclear utilities, in fact, generally have improved their standing on Wall Street since the Three Mile Island accident. Following TMI, Merrill Lynch reported that nuclear utilities stocks, relative to stocks of non-nuclear utilities fell about 4 to 5 percent. Today, only a 'modest differentiation' remains, says Kelley."

Investors generally look to the future, not the past, in making judgments on where to place their money. Investment in nuclear power today may be considered a better bet than prior to the incident at TMI-2 because (a) Congress and the Executive Branch have strengthened construction and operation standards, (b) under NRC instructions nuclear utilities have implemented the "lessons learned" from TMI-2, (c) electric utilities have created the Institute for Nuclear Power Operations--a non-profit, independent organization which evaluates safety in operations of nuclear plants, (d) through the Electric Power Research Institute and the Nuclear Safety Analysis Center additional information and analysis about nuclear power plant operations is available to utilities, and (e) nuclear property damage insurance coverage has increased by 160 percent.

It does not appear that the cleanup of TMI-2 is a major factor in investor confidence in nuclear power. What seems to be important to investors are the odds on occurrence of another such incident and the financial protection to be provided if it does take place. Reaction in the marketplace reflects the fact that the odds have gone down and the protection has gone up.

Nuclear power generation is expected to account for a record 13.4 percent of U. S. electricity by the end of 1982, up from 11.9 percent in 1981. Projections published by DOE pinpoint nuclear as the fastest-growing energy source in the U. S. And this despite TMI-2.

S.1606 helps only General Public Utilities. The sole way that S.1606 could affect investor confidence would be if the legislation is construed to be a precedent for future financial aid to all nuclear utilities in trouble--a possibility that promoters of the bill reject. As Senator Gorton pointed out during the May 20 hearings, the only logic which could be utilized to promote national spreading of the costs of another costly shutdown of a nuclear plant would be "the maintenance of ratepayer and investor confidence in nuclear power as a major contributor to the nation's energy needs." He said: "Only if all ratepayers throughout the nation could expect like treatment for the economic woes of the nuclear industry in their regions, could that logic prevail."

Certainly the information gained in the cleanup of TMI-2 will be of interest to other nuclear utilities. It will also be of interest to NRC, DOE, FERC, the White House, the Congress, State and local governments, nuclear component manufacturers, architect-engineers, financial insitutions, the scientific and engineering community, the press, and the general public. Presumably, this information will be readily available to interested parties because it will be developed with the aid of public funds, under the conditions of a Federal license, through plans established by a government regulatory agency, and with active participation by a Federal department. It is not proprietory information. It is in the public domain.

Utilities normally cooperate with each other in exchanging information about common problems. For example, Nucleonics Week reported in April on "the stream of observers during the Turkey Point replacement activity" as utility representatives visited the system of Florida Power & Light to study that company's approach to dealing with defective steam generators at a nuclear power plant.

Governor Thornburgh suggests that utilities should pay "tuition" to learn the lessons taught to GPU. However, utilities covered by S.1606 have already set up their own schools at INPO and EPRI, and many of them have also embarked on extensive and expensive "home study" courses as they apply post-TMI-2 knowledge to their own systems. For instance, the Sacramento, California, Municipal Utility District estimates that the cost of TMI-2 modifications for its 900,000 kilowatt Rancho Seco nuclear unit will run from $100 to $125 million or about one-third of the original $340 million total plant cost.

INPO is now in its third year of operation and is funded at the level of $32 million a year. All U. S. utilities with commercial nuclear power plants on-line are INPO members. INPO has carried out performance evaluations of nearly all of the nation's operating nuclear power plants, and has embarked on an effort to review construction standards of plants which are currently underway. In addition, INPO has created a network of information collection and dissemination which is aimed at the organization's prime goal--"to reduce the probability of a serious nuclear power plant accident." A copy of INPO's most recent annual report is enclosed for your information. As you can see from its contents, nuclear utilities are already paying a very substantial sum each year to implement lessons learned from TMI-2.

2. *In your judgment, does the TMI-2 reactor, in its present condition, pose a potential risk to the public health and safety, as the NRC has indicated in its prepared testimony?*

APPA does not have information adequate to second-guess NRC. The Association shares the view of NRC--and all other witnesses at the May 20 hearing--that public health and safety should be fully protected. In that respect, it was encouraging to hear DOE's Dr. Thomas Dillon testify on May 20 that: "Progress to date has been less difficult than originally anticipated."

3. *If this bill were to go forward, what would be the total amount contributed by APPA members over the six-year period, and have you determined how much rates would increase?*

Enactment of S.1606 would cost public power systems an estimated $26 million. We cannot accurately estimate how much this would increase the rates of the affected utilities.

4. *In your view, who should pay for the cleanup of TMI Unit 2? Is there anything that the Congress or the Federal Government should do to help achieve this result?*

So far, consumers in Pennsylvania and New Jersey have not paid a single cent for the cleanup of TMI-2. Yet at the same time, customers of other utilities in other parts of the country are paying through their electric rates for rectifying a variety of nuclear problems with costly economic consequences.

GPU currently estimates that a rate increase of 5-10 percent would cover the costs of the TMI-2 cleanup. In view of the size of rate increases imposed in other service areas, a hike of this magnitude does not seem excessive. The chairman of GPU himself has observed that the cleanup of TMI-2 "is not the rate-making burden that some tended to think when we first addressed the problem."

Why aren't Pennsylvania and New Jersey customers paying for the cleanup? They are not paying because the Pennsylvania and New Jersey state utility commissions have not permitted GPU's three subsidiaries to collect cleanup costs in rates. Rather than confronting the issue directly, the Edison Electric Institute and others concocted a scheme for an unprecedented Federal tax on nuclear power plants, with the proceeds to be channeled into the coffers of GPU, as a means of buying action by the commissions.

It should be recognized that (a) remaining costs of the cleanup are estimated by GAO as $570 million (not $1 billion), (b) the annual figure for optimum action has dropped from the $150 million cited by GPU last year to $120 million this year, (c) it has always been known that the effort would stretch over a period of years (through mid-1985 according to NRC's current master schedule) obviating the necessity for a lump sum payment, and (d) DOE has recently expanded the value of its offer to remove and store the damaged TMI-2 core.

It is also pertinent to note the April 27 testimony of Susan Shanaman, chairman of the Pennsylvania Public Utility Commission, who pointed out to the House Committee on Interior and Insular Affairs:

"The timetable of clean-up is constrained primarily by the limits on radiation exposure for the pool of employees of GPU Nuclear and the physical limitation to the number of workers capable of operating within the containment building at any one time."

As I observed in my prepared testimony, GPU has already received substantial outside financial aid to cleanup TMI-2, including funds earmarked by the Federal government. Furthermore, it should be noted that GPU is not a "Mom and Pop" power company. It is the nation's fourth largest registered electric utility holding company in terms of assets and revenues, according to the Securities and Exchange Commission, and controls 11 subsidiaries. In 1981, *Forbes* magazine's list of the country's largest 500 companies ranked GPU 146 in assets ($5 billion) and 310 in sales ($1.8 billion).

While the spector of bankruptcy is bandied around in discussions of GPU's TMI-2 problems, this talk is likely more of a scare tactic than a real possibility. After all, this same company is actively engaged in putting together a $600 million joint venture with a Canadian utility, Ontario Hydro, which will result in the construction of a major electrical interconnection to bring a firm power supply of 1,000,000 kilowatts into the United States. The project is a big one--it will supply 40 percent of the energy needs of Jersey Central Power & Light between 1985 and 1995. This is not an endeavor for which a company on the verge of bankruptcy could generate serious interest by another utility.

Even though GPU's stock has taken a beating, it is still touted, albeit as speculative, by securities firms. For instance, here is a May, 1982, recommendation from Johnston, Lemon & Company:

"General Public Utilities ($5) reported first quarter earnings of to 30 cents per share versus 13 cents a year ago. The improvement was expected, and we are maintaining our full-year estimate of $1.00 for 1982. The gain was due to rate increases granted in Pennsylvania and the capitalization of previously expended operating and maintenance charges associated with Three Mile Island Unit No. 2. These factors offset a decline in sales due to the recession. As a result of delays in the start-up of service to some industrial customers, GPU has scaled back its forecast of system sales for the year to 3 percent from 7 percent. We recommend purchase for speculative accounts."

Some of the image problems which GPU may have incurred because of TMI-2 are apparently also being offset by, among other things, the 35-person TMI-2 information team which has been created since 1979 by GPU Nuclear.

It should be realized that the situation faced by GPU is not unique. There is close parallel to TMI-2 in the history of the Enrico Fermi plant of Detroit Edison.

Enrico Fermi No. 1 was a 50 megawatt breeder reactor constructed for commercial power purposes on the system of Detroit Edison. In 1955, when the project was launched, the cost estimate was $40 million. The Atomic Energy Commission issued a construction permit for the plant in 1956, and it was licensed by AEC for operation in 1963 with full power approval granted in 1965. In 1966, at a time when available commercial nuclear property damage insurance totalled $74 million, the reactor was involved in a major fuel meltdown. It was shut down for repairs from 1966 to 1970. In 1971, Detroit Edison sought Federal and utility money to help put the project back on line as a power producer. However, the requisite financial help was not forthcoming. In 1972, the plant was closed after an investment of $133 million--a large sunk cost for a utility in the days before double-digit inflation--and decommissioning and economic write-offs were undertaken.

Certainly there are differences between Enrico Fermi and TMI-2. Nevertheless, the similarities are striking. And it is perhaps pertinent to note that Detroit Edison did not go broke.

EEI has proposed that its members contribute $192 million to GPU for the TMI-2 cleanup. "The EEI proposal is not contingent upon the participation of others, including the Federal government," an EEI spokesman has testified. If this is the case, there is no need for legislation.

However, what has happened is that EEI members have not supported the decision of EEI leaders, as indicated by this report in the January 8 edition of the St. Petersburg Times: "Florida Power Corp. will not help pay the cleanup costs of the nuclear power plant accident three years ago at Three Mile Island, company officials announced Thursday. 'Our decision, and we consider it final, is that we would not voluntarily ask our customers or our stockholders to pay any costs,' the company spokesman, Larry Shriner said."

Now EEI leaders are asking Congress to create a mandatory "voluntary" program.

It is interesting to note that the June 3 issue of Nucleonics Week reported that private power companies might withdraw their support of S.1606. "The main objection utilities have to the bill, sources said, is an amendment by Senator Gordon Humphreys (R.,N.H.) which would confirm a state's right to decide whether the contribution could be passed through to customers," the newsletter said. Reportedly some companies fear stockholders' suits if the contributions were subtracted from dividends.

If the Senate has the Contitutional authority to initiate such action, placing a Federal tax on nuclear power plants is an extreme reaction to the TMI-2 situation even if it were necessary, equitable, and desirable--which it is not. When Lockheed got in trouble, Congress didn't levy a tax on airplanes. When Chrysler experienced difficulties, Congress didn't impose a tax on cars. And even when Penn Central went bankrupt, Congress didn't establish a tax on locomotives.

Ratepayers and taxpayers in other parts of the country have already been assessed costs because of TMI-2. Now its time for state commissions in Pennsylvania and New Jersey to act. GAO has called such state action "the only reasonably viable alternative." Congress should indicate that it has also reached this conclusion.

5. *If this legislation does not move forward, what, in your view, is likely to happen regarding further progress on the TMI-2 cleanup?*

NRC will require GPU to clean up TMI-2 and state commissions will allow recovery of the costs in rates.

TESTIMONY OF WILLIAM G. KUHNS
CHAIRMAN AND CHIEF EXECUTIVE OFFICER
OF
GENERAL PUBLIC UTILITIES CORPORATION

Before the Committee on Environment and Public Works of the
U. S. Senate
May 20, 1982

I am Chairman, chief executive officer and a director of General Public Utilities Corporation ("GPU"). I hold identical positions with each of the principal GPU System Companies, namely, Metropolitan Edison Company ("Met-Ed"), Pennsylvania Electric Company ("Penelec"), Jersey Central Power & Light Company ("Jersey Central"), and GPU Service Corporation ("GPUSC"). I am also a director of GPU Nuclear Corporation ("GPUN"). My business address is 100 Interpace Parkway, Parsippany, New Jersey.

1. Introduction

The accident at Three Mile Island occurred over 3 years ago. In April and May of 1979, GPU, the nuclear industry and a variety of state and federal institutions jointly acted to first comprehend, then solve a technological crisis of unprecendented magnitude.

Since the reactor was returned to a safe and stable condition, in May of 1979, GPU has sought to resolve the equally unprecedented financial crisis concerning the funding of TMI cleanup. Regardless of how one views the various issues and controversies that surround Three Mile Island, there is no question that the reactor and its facilities must be cleaned up as soon as possible.

Most responsible persons and institutions that have studied the question of cleanup funding, including the U.S. GAO, have concluded that a funding program that equitably spread the costs of the cleanup beyond GPU customers and stockholders was essential. Until very recently, a consensus did not exist among the logical participants in a cost sharing program either in their role or level of financial contribution.

In the intervening year, significant progress has been made in breaking the barriers to a workable cost sharing formula to fund the cleanup at TMI. Progress in other areas has been less dramatic and there have been a few disappointments. My purpose today is to report on the current state of the cleanup program and the progress achieved in the development of a cost sharing program. I must stress that unless progress continues - and the participation of Congress in this progress is crucial - and unless cleanup funding is assured, another technological or financial crisis may preempt orderly resolution.

2. TMI Cleanup Program

While the unit continues to be held in a safe and stable condition, the ingredients of a potentially very serious situation still exist at TMI. This condition will remain until the damaged fuel core is removed, the plant is cleaned up, and radioactive wastes have been removed from the island.

In the summer of 1981 we reevaluated the costs of our cleanup program. Based on this evaluation, which had the benefit of numerous entries into the containment building, full cleanup of the facility to be accomplished over the next five to six years was estimated to cost about $760 million. Considering the funds which have been devoted thus far to bringing the unit into a safe and stable condition, processing the contaminated water, and beginning preparations to mount the efforts to remove the fuel - the total cost will be about $1 billion. This estimate included an allowance for the effects of inflation. It has always been represented as an estimate with a 50/50 chance of being high or low. While some delays have occurred, $1 billion remains our best estimate of the cost of the job.

The job can be viewed in three stages: 1) removal and processing of about one million gallons of contaminated water from the building and systems; 2) removal of the damaged fuel core; and 3) decontamination of the entire interior of the containment building. Despite the fact that proven technology is available to accomplish the cleanup, the task is unprecedented in its magnitude. Thousands of skilled workers, who will have to operate under severely restricted conditions, will be involved. Actions taken to protect each worker's health and safety will vastly reduce their normal productivity, thus increasing labor costs. Additionally, construction or fabrication of several new facilities and equipment will be required.

In the intervening year, several key milestones have been accomplished in the cleanup program. Nearly all of the contaminated water that was held in the auxiliary and containment building has been processed. Several important entries have been made within containment to further assess the extent of the cleanup program. Agreements have been reached between GPU and the USDOE that assure the safe removal and disposal of radioactive wastes that are generated during the cleanup program but that would otherwise not be permitted burial in commercial facilities. Additionally, DOE has agreed to accept the entire nuclear fuel core in conjunction with their R&D program. Once these wastes have been removed, any threat to the environment will be radically reduced. The removal of the core, however, awaits the completion of a cleanup funding package.

These efforts should not be viewed narrowly as actions to clean up the facility but as opportunities to derive significant nuclear research and development values. Specifically, the experience gained in cleanup, waste disposal and damaged fuel examination will assist the nuclear industry in managing its operations in a safer manner and to assure that, should another accident occur, the industry will be better able to clean up and decontaminate that facility safely and expeditiously. The lessons learned from TMI have already benefitted others, as was shown most recently by the manner in which Rochester Gas & Electric operators responded to an accident at their Ginna nuclear generating station. The information and experience gained will also improve the design of future plants. Not all these values to be derived have or can be quantified: however, the potential value of fuel and material examination alone could easily reduce federal nuclear R&D efforts by several hundred million dollars.

3. Cost Sharing

Within a year after the accident, it was clear that the costs of a cleanup program were well beyond the insurance coverage and the resources of the company. (This view was also expressed by the U.S. General Accounting Office in their report, "Three Mile Island: The Financial Fallout" issued on June 7, 1980.) It was also clear that parties other than GPU had a stake, responsibility, or self-interest in assuring a safe and efficient cleanup program and that the costs of this program should be shared among them.

The roles of each of these groups are as follows. The interested parties include the GPU rate payers, the GPU shareholders, the Federal and State governments, the nuclear electric utility industry, the nuclear supply and services organizations and foreign governments. Clearly, GPU ratepayers have a role because it is they who have benefitted from the past economics of nuclear energy. GPU's shareholders have a substantial investment in the GPU System and facilities. State governments, both from a health and safety standpoint, and through their rate regulatory agencies, have a responsibility to assure an expeditious cleanup and reliable supply of electricity to the region. The federal government has a direct responsibility because it has been a major participant in the development of nuclear power, and because research values of national importance and applicability await study at TMI. Finally, the national utility industry has a self-interest in assisting in the cleanup because as the impasse continues, the cost and availability of capital to the industry will reflect an investor "risk premium" that will become more costly than any reasonable share of the costs. This concern is in addition to the utility industry's interest in the learnings to be derived from the cleanup. There is no way to crisply determine a perfect cost sharing "formula," as the perfect formula is one which is perceived as equitable by all of the participants.

Complete agreement does not, as yet, exist on a precise allocation of shares that add up to the full balance of remaining cleanup costs, however, each of the identified parties has publicly acknowledged its role. This acknowledgement has resulted from the efforts of the Pennsylvania and New Jersey delegations, the sponsors of various bills before the Senate and House, the U.S. Department of Energy, the political leadership of the President, and Pennsylvania Governor Thornburgh, the action of the Edison Electric Institute, the Pennsylvania Public Utility Commission and ourselves.

A. The Cost Sharing Plan Proposed by Governor Thornburgh

The leadership of Pennsylvania Governor Thornburgh, in proposing, on July 9, 1981, a specific plan to share the cost of decontaminating TMI-2, has dramatically changed the posture of the effort to obtain funding for the cleanup.

The Governor's proposal, which he characterized as "fair, balanced and achievable," grew out of discussions with the nuclear industry, the Reagan Administration, Congress, various federal, state and local agencies, the financial community, and officials of the State of New Jersey.

In announcing the plan, the Governor noted that his office had been attempting to define for more than a year "what might be meant by a 'fair share' of the TMI cleanup costs, and who might reasonably be expected to participate in the sharing process." He also noted that "no single institution can be expected to shoulder the enormous financial responsibility for the first nuclear reactor cleanup in the history of the world." The Governor also pointed out that the "lessons of TMI that already have been shared on a national scale make it quite clear that any 'tuition' we now pay for on-the-job cleanup training will be a solid investment in future nuclear safety and security." The governor's first priority was protecting the health and safety of the public from the threat of radioactivity that remains until TMI-2 is cleaned up. The cost sharing plan was based on a study carried out by the Governor's Office of Policy and Planning, which issued a report on July 9, 1981 summarizing the results of its study. The report began by noting that "while the technology to achieve the cleanup is reported to be available, the process is at a virtual standstill." This in turn was attributed to GPU's lack of resources to complete the cleanup without outside help: "Several public agencies have concluded that the utility alone simply cannot finance the cleanup without some form of external financial support." (This conclusion was also reached by the USGAO in their August, 1981, report entitled "Greater Committment Needed to Solve Continuing Problems at Three Mile Island.")

In addition to GPU, the Governor identified the federal government, the States of New Jersey and Pennsylvania, the nuclear industry (including utilities and suppliers), the financial community, and the Pennsylvania and New Jersey Public Utility Commissions as having roles and responsibilities in assuring completion of the cleanup.

The report saw a dual role for the federal government, pointing out that by virtue of its role as the creator and developer of nuclear power, the government should directly participate in funding the cleanup, and as the industry's sole regulator, it should also expedite regulatory decision making affecting the TMI-2 cleanup and restart of TMI-1. As to cleanup assistance, the report noted that the federal government, through the Department of Energy, should undertake funding of the following:

- activities having national research and development value, such as those related to core removal and radioactive waste management.

- removal and disposal of nuclear materials not disposable at commercial burial sites.
- removal and disposition of the damaged nuclear fuel core.

The report recommended that the cleanup shares of the States of New Jersey and Pennsylvania be provided from general tax revenues. It also recommended that the two states cooperate in developing plans for the disposal of low level radioactive wastes, that they enact legislation requiring the utilities operating in their states to carry insurance sufficient to protect against a future accident, and finally, that they work to achieve implementation of the Governor's cost sharing plan.

Having identified the parties recommended for participation in the cleanup, the report then proposed that its costs be allocated equally between national and local resources, and funded over a six-year period. Based on our August 1981 estimate of cleanup cost remaining to be funded of $760 million, Governor Thornburgh proposed sharing along the following lines:

- The federal government by providing approximately $190 million, or one fourth of the remaining cost ($30 million per year, if funded over 6 years).
- The nuclear industry by providing a like amount.
- The States of Pennsylvania and New Jersey by providing about $45 million with two thirds of that amount provided by Pennsylvania ($5 million per year) and one third provided by New Jersey ($2.5 million per year).
- The utility by providing about $245 million ($41 million per year, if funded over 6 years).
- The remaining insurance of about $90 million.

It is important to note that Governor Thornburgh did not view the particular shares he proposed as being immutable to change. In testimony before the Senate Committee on Energy and Natural Resources on October 20, 1981, the Governor was asked to address this very question. He stated:

> "I tried to make it clear from the beginning of the presentation of this plan ... that I see no particular magic in any figure. It seems to me that we have come a long way since mid-summer when zero dollars were available and I'm confident that the people who are as concerned as all of us here today with the financing of that cleanup can develop a real, meaningful consensus out of what has gone thus far."

In referring to the share proposed for the utility, the report of the Governor's Office of Policy and Planning noted the critical importance of the return to service of TMI-1 on GPU's financial health and its ability to provide cleanup funding. The report pointed out that the unit's operation would significantly reduce replacement power costs and, if GPU's charges to customers were not lowered to reflect that reduction, a portion of savings in energy costs resulting from the operation of TMI-1 could be devoted to cleanup costs.

The reception to the Governor's proposal has been excellent. It has clearly been the catalyst for the beginning of a consensus to solve the problem. Very significant and positive responses have come from the electric utility industry, the federal government and the Pennsylvania Public Utility Commission.

B. The Electric Utility Industry

The electric utility industry's interest and role in the TMI-2 cleanup have been defined by the Edison Electric Institute (EEI), the association of investor-owned electric utilities whose members serve approximately 80% of the nation's electricity users.

On September 10, 1981 at a joint conference with Governor Thornburgh in Kansas City, EEI endorsed the Governor's cost sharing plan and recommended that the electric utility industry invest $192 million for the cleanup of TMI-2 at the rate of $32 million per year for six years. In addition to the benefits accrued to itself through the research and development efforts, EEI recognized that a direct economic benefit might be gained from participation in the TMI cleanup. Specifically, EEI noted that while TMI remained a problem, investors would exact a "risk premium" in the form of higher interest rates. The level of utility participation in the Thornburgh plan was viewed as being far less costly than the added cost of interest on capital with no resolution to the TMI problem. By a resolution of its Board of Directors, EEI:

- endorsed the cleanup cost shares proposed by Governor Thornburgh for other recommended participants in the cleanup (the federal government and the States of Pennsylvania and New Jersey).
- called for enabling legislation at the federal level, in view of the "national interest in achieving safe, orderly and expeditious cleanup of TMI-2."

EEI has stated that it prefers the development of federal legislation that would serve to facilitate participation by all electric utilities -- investor or publicly owned -- by removing legal or institutional constraints that otherwise might serve to deter participation. On March 31, a bill (S.1606) that supports the EEI resolution, cosponsored by Senator Heinz from Pennsylvania and Senator Bradley from New Jersey, was reviewed and voted out of the Senate Energy and Natural Resources Committee. The bill, as amended, establishes a surcharge on all nuclear capacity, whether operating or under construction, from 1982 to 1987. Each utility that owns some share of a nuclear plant would be required to pay, provided that it owned a part of at least one operating reactor, but that it pay no more than $1.6 million per year. S.1606 will generate about $170 million over the six year period, provided that none of the currently projected nuclear reactors are delayed or cancelled.

Other proposed legislation to achieve the same objective has been presented. While we cannot be sure that the facilitating federal legislation will be adopted in 1982, the broad expression of support for Governor Thornburgh's proposal encourages us to believe that prospects for enabling legislation are reasonable. The exact level of the industry's participation we believe will depend upon the actions of the federal government.

Of particular note is the fact that a federally mandated cost sharing program has been endorsed by the National Association of

Regulatory Utility Commissioners ("NARUC"). In a resolution passed by the Executive Committee on March 5, 1982, NARUC said:

> "RESOLVED, that it is imperative that the U.S. Congress act to provide a cost sharing mechanism to fund the clean-up of TMI-2, which mechanism should also be applicable to any similar possible nuclear accidents in the future so as to minimize public health and safety threats."

C. The Federal Government

The U.S. Department of Energy has provided valuable technical assistance in accident recovery efforts, and, through its research into the causes of the accident, has developed knowledge that should help improve the safety of all nuclear power plants.

Working with GPU, EPRI and the NRC, DOE initially established a formal program in 1979 for disseminating its information on technical aspects of the accident. For this purpose, Congress appropriated $10.5 million in fiscal years 1980 and 1981, and $10 million for fiscal year 1982 (the 12 months ending September 1982). However, only a limited portion of these funds will fill the dual role of providing funds for R&D and offset cleanup costs.

In 1981, DOE proposed an expanded research and development role at TMI, which Congress subsequently approved, and for which it appropriated additional funding of approximately $30 million in fiscal year 1982 (as part of a multi-year program defined below).

Last October, Secretary of Energy James B. Edwards noted that DOE's expanded program "is consistemt with Governor Thornburgh's recent proposal for shared responsibility among the various parties." He then when on to highlight the program's objectives, as follows:

- Obtaining and disseminating R&D information on reactor safety of general interest to the Nation's nuclear utilities. This element will also provide GPU with technology of value in conducting the cleanup.
- Removing, processing (including R&D), and disposal of abnormal radioactive wastes not disposable at commercial sites.
- Facilitating removal, inspection, evaluation, and disposition of the damaged reactor core.
- Costs of handling portions of the waste and damaged reactor core that are not needed for research and development purposes will be reimbursed.

Secretary Edwards also pointed out that research and development efforts already completed or underway by DOE include providing technical assistance for developing processes to clean up the water in the TMI-2 containment building, removal and examination of the fuel core and abnormal wastes, providing assistance to local Pennsylvania communities during Krypton venting, and the development of tooling for early core access and removal.

Presidential Counselor Edwin Meese in a letter to Governor Thornburgh, has stated that the Administration will request funding in future years sufficient to carry out DOE's committed research and development efforts at TMI.

He also pointed out that President Reagan "is particularly aware of the need to resolve the apparent impasse that has prevented significant progress in the cleanup of TMI." Breaking this impasse was cited as one of the President's objectives in requesting the increased appropriation for DOE earlier this year.

Counselor Meese's letter noted that the appropriations the President would be requesting would "include a total of approximately $75 million (including FY 1982) to carry out the program approved by the President last spring, as well as a total of $48 million (including previously appropriated funds) to complete the activities initiated under the agreement with EPRI."

Of particular note is DOE's recent commitment to accept abnormal radioactive waste and the fuel core from the TMI site. This is of great importance to the communities near Three Mile Island, and will preclude the use of the site as a de-facto waste disposal facility.

While subject to the year-to-year appropriations process before Congress, a three-year DOE program has been authorized. Of the $123 million referred to in Counselor Meese's letter, it is estimated that $66 - $69 million of that amount would directly or indirectly offset cleanup costs.

This support, together with the provision of radioactive waste disposal activities not included in our $760 million estimate, is heartening, particularly within the context of the current political climate of severe budgetary restraint. In direct and indirect offset value, however, the current federal commitment will be less than the share identified by Governor Thornburgh. It is our hope that as the cleanup moves forward and as costs are better defined, the federal government will expand and extend its support of the cleanup program.

D. The Pennsylvania Public Utility Commission

Beyond insurance, all of the direct costs associated with Three Mile Island have been met out of the return received on our other utility capital. For this reason, we have eliminated our common stock dividend (resulting in a shareholder loss of about $285 million through February, 1982). Customers have also borne a net additional cost from the accident of about $300 million, which has resulted from replacement power costs of $730 million, offset by $430 million excluded from rates.

Thus, no ratepayer funds from either Pennsylvania or New Jersey have been used to pay for the cleanup of Three Mile Island. In fact, prior to their most recent rate order, the Pennsylvania Public Utility Commission ("PaPUC") did not allow the utilization of customer revenues for the cleanup effort.

In June of 1981, when there was no discernable movement towards a broadly shared solution, as a component of comprehensive rate filing, both Met-Ed and Penelec requested funds adequate to support their respective shares aggregating 75% of the entire cleanup cost. (The other 25% of the cost belongs to JCP&L, which owns the balance of TMI-2.) Governor Thornburgh's plan was unveiled shortly after that rate filing in July of 1981, and since that time both the electric utility industry and the federal government took major steps by announcing their respective willingness to participate.

On January 8, 1982, the Pennsylvania PUC issued a rate order (which approved a settlement among the PaPUC staff, the State Consumer Advocate, Met-Ed and Penelec) that included customer funding of cleanup, in an amount equal to that proposed by the Governor ($36.75 million annually for the two Pennsylvania companies). The provision of these funds is contingent upon the operation of Three Mile Island Unit #1, which was then scheduled to resume operation in April, 1982. TMI-1's restart has been delayed by a recent Court of Appeals ruling that requires the NRC to evaluate the psychological impact on the local populace of restarting the unit before it decides on the issuance of a restart order. Shortly after the Court's decision, GPU determined that additional maintenance would be necessary to repair cracks in the tubing of the Unit 1 steam generators. This maintenance will be complete before the end of the year, and will not require funding beyond that anticipated for TMI-1 in 1982. The unit will therefore be prepared to operate by the end of the year, but NRC approval of the restart could be delayed beyond that point because of the Court of Appeals ruling.

E. The Remaining Elements of the Governor's Proposal and Other Initiatives

Efforts are underway to obtain participation by the New

Jersey and Pennsylvania state governments. Governor Thornburgh sought authorization for Pennsylvania's share of $5 million per year in this FY83 budget. Efforts to develop the share proposed for the State of New Jersey are in progress.

As of the end of 1981 there was approximately $83 million of insurance available to fund the remaining work. We strongly believe that it would be imprudent to expend all of the remaining insurance in 1982. These are funds which could be used to deal witn an emergency that might develop prior to removal of the fuel core. They should be used as we get toward that goal -- but they should be maintained in part to be used for any emergency funding requirement that might arise.

Although not a participant in cost sharing, the Nuclear Regulatory Commission is a key institution in the resolution of the TMI Cleanup problem and in its ultimate costs. The implementation of many steps in the cleanup program will require regulatory review and approval by the NRC. It is recognized that the cleanup of TMI is a one of a kind event and requires great care in its execution. It should also be recognized that a safe and expeditious program is in the best interest of all. Unnecessary delays add unnecessary costs that could prove to be significant. We estimate each year of delay in our current schedule to add as much as $100 million to the overall cost. We respectfully urge the NRC to be a careful, yet responsive participant in this process.

Financial Posture of the Company

Once the magnitude of the cleanup was understood, we had concluded that we were unable to continue to provide reliable electric service and, at the same time, move ahead with an expeditious cleanup program. Several key events have occurred since the accident that have improved, in some respects, our financial condition; however, that same basic conclusion remains applicable today.

In October of 1981, the Revolving Credit Agreement ("RCA") was renewed for an additional twelve month period. The RCA will expire on December 31, 1982, and essentially calls for repayment of our loans by that time. With this requirement, and with our 1983 capital requirements to provide service to our customers, we must give serious attention to funding the GPU System in 1983. The delay in the TMI-1 restart, combined with the continued lack of assured funding to decontaminate TMI-2, has led our banks to assert that we cannot assume for example, the availability of funding to Met-Ed without further progress, particularly on TMI-1 restart and TMI-2 cleanup funding.

Unfortunately, I must report that we are no more able to prosecute a cleanup funding program now than we were a year ago. In fact, we may not have the ability to maintain the same high levels of reliability to our customers as we have in the past.

Conclusions

Until very recently, GPU faced an uninsured problem of nearly 700 million dollars and an institutional impasse that prevented the flow of support from those parties with a stake in or responsibility for the cleanup of TMI. Despite the significant progress made to date in the cleanup, the lack of funding has thus far prevented us from accelerating that effort to a reasonable level. A cost sharing mechanism to fund the cleanup, spreading the costs beyond GPU and its ratepayers has been identified and is perceived as being appropriate and equitable. Each of the primary participants to this mechanism has acknowledged that its role exists and has accordingly pledged some level of financial support.

Recognition of the magnitude of the problem and acknowledgment of self interest or responsibility by these institutions represents a major step in getting on with the job. However, the conversion of this recognition to action is dynamic, extremely complex and by no means complete. Each share will require continued attention. Some may be subject to the annual budget processes of the State and Federal government; others may require enabling legislation to be truly equitable. Another year has passed, without a funding package in place. We expect further delays this year in the flow of funds from other utilities, because of the lack of legislation, and from our customers in Pennsylvania, because of the delay in TMI-1 restart. As the program is delayed, its costs could increase.

This consensus building process has the potential for change as the effort proceeds but the faster it is accomplished the faster the cleanup will be completed. GPU is prepared to see this process to fruition. It can be sustained and nurtured, however, only through the continued interest and action of each affected party including the U.S. Congress. S.1606 is an essential ingredient to this sustained process. We appreciate this opportunity to express our views on this most important matter.

Question

Responses to the questions posed in Senator Stafford's letter of April 22, 1981, are presented in Attachment A.

Attachment A

Testimony of W. G. Kuhns

Answers to Questions

1. Q. Should the legislation include a prohibition on pass-through to the utility ratepayers of a specified percentage of the TMI-2 cleanup fee imposed by the bill?

A. Sec. 9 of S.1606 as amended by the Energy Committee states that:

"Nothing in this Act shall be construed to prescribe the ratemaking treatment, by state regulatory bodies and the Federal Energy Regulatory Commission, of payments made..."

We believe that the bill is unnessarily explicit in this regard, since there is nothing in the balance of the legislation which prescribes ratemaking for the cleanup fee. On the other hand, we certainly believe that it would not be prudent to go beyond Sec. 9 in defining limits which would have to be recognized by state and federal regulatory authorities.

2. Q. Should the legislation require a financial contribution to the TMI-2 cleanup by major nuclear reactor manufacturers in this country?

A. The additional cleanup funds which might be provided by a vendor participation in the cleanup would clearly be of benefit to moving forward with the effort. The company has made initiatives to develop such participation on a voluntary basis. Thus far these activities have not been fruitful.

The company is unable to determine whether or not it is in the self-interest of the reactor manufacturers to participate. While this sector of the nuclear industry would clearly benefit from new commitments for nuclear power plants, it is not evident that the resolution of TMI cleanup issues will be sufficient to accomplish that result in view of the other hurdles that the nuclear industry must overcome. This uncertain situation is in contrast to the clear self-interest of the nuclear utility industry whereby the elimination of the TMI impasse will eliminate or substantially reduce the "risk premium" now being paid by the industry.

3. Q. Should the legislation require a determination that electric utility rates in the GPU service area are comparable to other electric utility rates in the Northeast region, or in other regions of the country?

A. No. The concept of cost sharing developed by the major parties of interest to the TMI cleanup has not included the necessity of demonstrating that any one of the participants cannot pay any more than his fair share. Under the current cost sharing concept GPU ratepayers will be paying the largest single share (as they should be). Despite this, many have suggested that GPU customer share should be even larger.

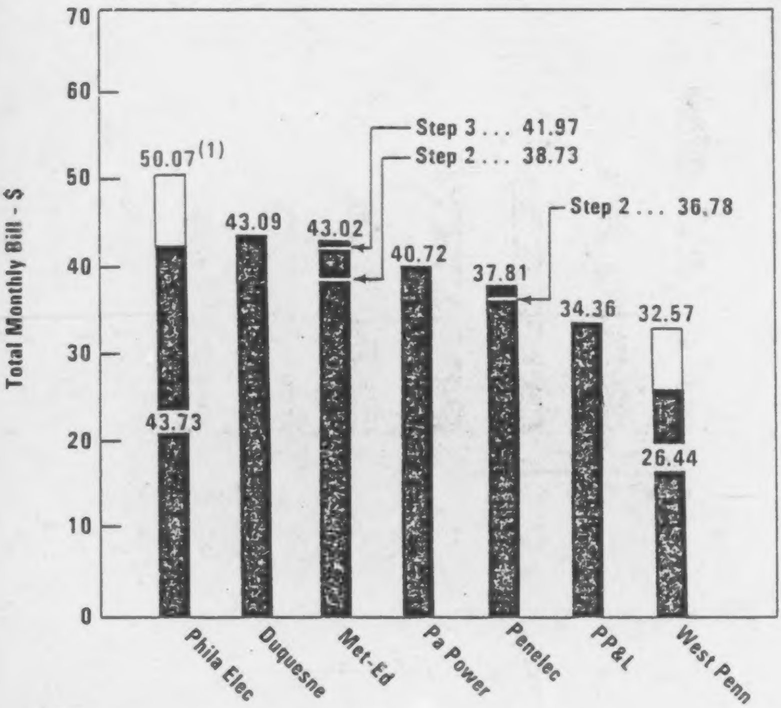
In this regard, a perspective of the impact of the accident on the GPU ratepayer and where current GPU residential customer rates stand, relative to other utility service areas both regionally and nationally, is appropriate.

Since the accident, Met Ed's rates have increased by about 90%, and Jersey Central's rates by about 70% (or 113% if currently pending increases are granted in full). The average residential customer without electric hot water, or electric heat (500 KWH per month) pays 8.6¢/KWH in Met Ed and 9.6¢/KWH in Jersey Central.

The attached bar charts also indicate that both Met Ed's and Jersey Central's residential rates are among the highest in the states they serve. Table 1 provides an additional prospective through a comparison of average annual bills for a variety of electric utilities in other states.

Typical Bill Comparisons
Penelec & Met-Ed Compared to Other Pennsylvania Utilities

Residential No Water Heating 500 KWH/Month



▨ Rates in effect April 10, 1982

☐ Upon effectiveness of settlement steps for Met-Ed & Penelec or if pending rate increases were granted in full.

¢/KWH:

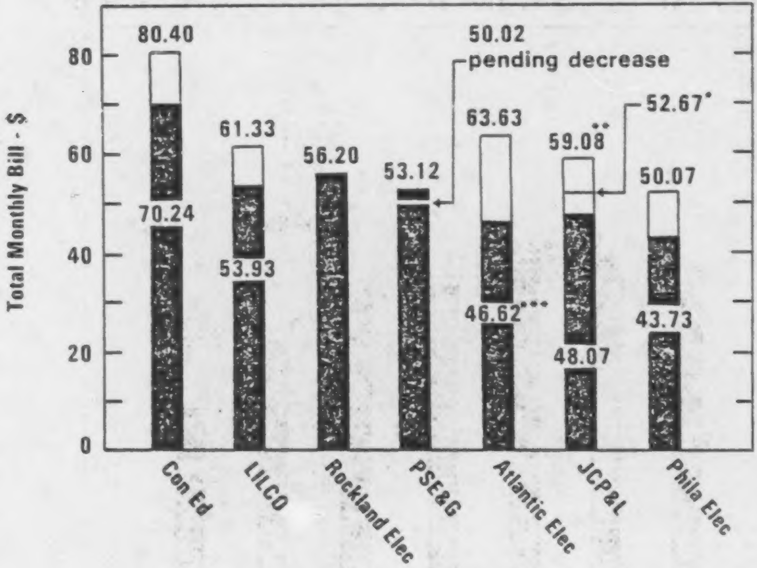
▨	8.7	8.6	8.6	8.1	7.6	6.9	5.3
☐	10.0	-	7.7(2)	-	7.4(2)	-	6.5

(1) Reflects pending Philadelphia Electric Company proposal to reduce their Energy Cost Rate to 0 effective 5/1/82 through 12/21/82, as well as their pending base rate increase.

(2) With all 3 steps of settlements

Typical Bill Comparisons
Jersey Central and Neighboring Utilities

Residential No Water Heating 500 KWH/Month



▨ Rates (winter) in effect April 26, 1982

☐ If pending rate increase were granted in full

¢/Kwh:

▨	14.0	10.8	11.2	10.6	9.3	9.6	8.7
☐	16.1	12.3	-	10.0	12.7	11.8	10.0

*Reflects pending LEAC ($3.85) and ONTARIO HYDRO ($0.75) petitions.

**Reflects pending BASE RATE CASE ($6.41), composed of: base rate request ($9.51) offset by estimated TMI-1 energy savings ($2.30) and expiration of deferred energy surcharge ($0.80).

***Reflects interim LEAC order of 4/1/82.

Table 1
1981 Typical Average Annual Residential Bills
Selected Utilities

State	Utility	Average Annual Use (KWH)	Average Rate ¢/KWH	Average Annual Bill ($)
CO	PS of Colorado	5701	5.9	334
CN	Conn Light & Power	7548	7.8	592
ID	Idaho Power	14054	3.0	421
ME	Central Maine Power	6777	6.7	455
MA	Boston Edison	5190	9.5	495
MT	Montana Power	7977	3.3	264
NJ	PSE&G	5261	9.4	492
	Jersey Central P&L*	7982	8.6	683
NM	PS of New Mexico	5698	7.3	416
NY	Con Ed	3231	14.9	480
ND	Otter Tail Power	9190	5.2	482
PA	Philadelphia Electric	6667	8.0	536
	Met Ed*	7660	6.9	527
RI	Narragansett Electric	5562	8.9	495
SD	Northwestern PS Co.	7354	7.6	557
TN	Tenessee Valley Authority	14250	4.1	579
TX	Houston L&P	13590	6.3	855
VT	Central Vermont PS	7866	6.3	494
WA	Puget Power & Light	14626	2.7	394
WV	Appalachia Power	10896	4.7	512
WY	Cheyenne Light	6127	3.1	189

*GPU Subsidiary Companies
Source: EEI Statistical Reports and Company Annual Reports

GPU

Bernard H. Cherry
Vice President
Corporate Planning

General Public
Utilities Corporation
100 Interpace Parkway
Parsippany, New Jersey 07054
(201) 263-6500

June 7, 1982

Mr. James Curtiss, Associate Counsel
Subcommittee on Nuclear Regulation
Senate Environment & Public Works Committee
6231 Dirksen Senate Office Building
Washington, DC 20510

Dear Jim:

Enclosed are the answers to the questions posed to Mr. W. G. Kuhns by members of the Senate Environment & Public Works Committee.

Please contact me if any further information is needed. I appreciate your cooperation in allowing us to submit these answers later than the originally specified date of Friday, June 4.

Sincerely,

BHC:so
Enclosure

Responses to Questions from Senator Simpson

Simpson
Question 1: Your most recent estimate of the cost of cleanup, as of July 1, 1981, projected expenditures of $1.034 billion. I understand that this estimate is now being reviewed and may be revised. When do you expect to complete your review and do you have any indication today as to what the new estimate might be?

Response: Our plans are to complete a review of the July 1, 1981, cost estimate in the fourth quarter of 1982. At this point, we expect that if adequate funding is available in the near future, the completion of the cleanup will not be extended appreciably. Furthermore, the nature of the uncertainties of estimating the cleanup costs are such that the total of $1.034 billion still appears to be reasonable for planning purposes, even though the 1982 effort will be less than originally contemplated.

Simpson
Question 2: If this legislation does not go forward, what plans does GPU have to provide sufficient funding for the cleanup? Would you be prepared to return to the rate-setting bodies in Pennsylvania and New Jersey to request additional rate relief?

Response: S.1606 assures the provision of broad based utility industry participation in the shared cost funding of the TMI cleanup. The other participants in this plan are the GPU rate payers (the major share), the states of New Jersey and Pennsylvania, and the Federal Government (through U.S. DOE Research and Development Programs).

The shared cost approach to cleanup funding is the only plan for cleanup funding currently in existence which has received enough support to be viable. It represents a fragile agreement which is the product of over 18 months efforts of the major parties of interest to the cleanup.

If the participation of the nuclear industry cannot be assured through the enactment of legislation such as S.1606, the carefully nurtured cost sharing agreements will begin to unravel and we will be left with the impasse on cleanup funding that existed 1 1/2 years ago. The plant will remain a potential threat to the health and safety of the residents of central Pennsylvania. The break down of the current consensus could lead to a much more prominent federal role in the cleanup of TMI. We believe that the shared cost plan represents the only approach to funding that can be implemented in a non-crisis, non-confrontational environment.

If S.1606 does not go forward, the company will pursue all possible avenues available for cleanup funding, including again requesting cleanup revenues from state regulatory commissions.

Simpson
Question 3: The TMI-1 reactor has been beset by a number of problems, including, most recently, the steam generator troubles. What steps are you taking to repair the steam generators and when do you expect to have the work completed?

Response: GPU continues to investigate and analyze the cause of TMI-1 steam generator tube problems and appropriate repair techniques. This program of investigation and analysis has resulted in an understanding of the cause of the corrosion which gives us a high degree of confidence that the steam generators can be returned to reliable service by plugging about 2% of the tubes and repairing the balance. The repairs are expected to be completed about September 1982.

Simpson
Question 4: Do you, at this point, anticipate any further impediments of a financial, technical, managerial, or regulatory nature to the prompt restart of TMI-1?

Response: There are several open issues that could delay the prompt restart of TMI-1. They are:

- Atomic Safety and Licensing Board (ASLB) - In 1981, when it was determined that cheating had occurred during TMI-1 operator testing, the ASLB reopened this issue as part of the restart application. Several subissues have been resolved, however the ASLB must still issue its Partial Initial Decision (PID) on the cheating issue and its relationship to management competence. We anticipate the PID will be available about the end of June 1982, which would provide sufficient time to support a decision on this issue by the NRC by August 1982.

- Steam Generator Repairs - (See response to Question 3.) We have kept the NRC staff apprised of our progress on the TMI-1 steam generator work. While we do not believe the repair technique requires formal NRC approval, we certainly will be responsive to any concerns that they identify. We also are scheduled to submit to the NRC by the end of June 1982, a Safety Evaluation Report covering operation with the repaired steam generators.

- Psychological Stress - As a result of proceedings initiated by PANE an intervenor group, the D. C. Court of Appeals, decided that under the National Environmental Protection Act (NEPA), the NRC was required to evaluate psychological stress and community well-being as factors in the restart of TMI-1. The NRC has not yet identified the NEPA procedures that they will follow in addressing the potential psychological stress resulting from the restart of Unit 1. We expect to appeal this decision, but we believe it unlikely that NEPA requirements could be fulfilled in time to support a restart of Unit 1 before 1983.

Simpson
Question 5: The prepared testimony of GAO indicates that if this bill does not go forward and GPU instead requests a rate increase of $32 million each year over the next six years, Metropolitan Edison, Pennsylvania Electric, and Jersey Central rates for the average residential customer would increase 2.3, 0.9, and 0.6 percent, respectively. Do you agree with GAO's estimates and, if so, why shouldn't customers in the GPU service area absorb what appears to be a very small rate increase?

Response: GAO's estimate is accurate, however it must be noted that the funds to be provided by S.1606 represent only a fraction of the whole amount required to clean up TMI-2. If the amount to be raised by S.1606 were absorbed by the GPU customers, it would be incremental to the large increases they have experienced since the accident. One must presume that if S.1606 bill is not enacted, it causes an unravelling of the cost sharing process. The full measure of this burden, then, is not these seemingly small increments, but rather is the full burden of cleanup costs. (See response to Question 2 above.)

Simpson
Question 6: What progress have you made in securing commitments to assist in the cleanup from the nuclear industry, including reactor vendors and architect engineers?

Response: Thus far, little progress has been made in securing commitments to assist in the cleanup outside of the utility industry. It has been our experience that the nuclear industry does not, on the whole, share the view of the utilities that it is both in their self interest and equitable to support the TMI cleanup.

Simpson
Question 7: DOE's prepared testimony indicates that the recently completed containment decontamination experiments should lead to a major reduction in cost and time required to complete the cleanup. Do you agree and, if so, what will the reductions be?

Response: The recently completed containment decontamination experiment has confirmed some of our previous assumptions regarding the effectiveness of certain decontamination techniques. However, GPU does not believe that the results of this experiment have provided any basis for a significant revision to the estimated cost and time to complete the cleanup.

The experiment did show that the in-containment activities were accomplished more productively than originally contemplated; however, the support and training effort required outside the containment in preparation for the in-containment work was more costly and took longer than originally estimated. Evaluations are in process which will hopefully result in a reduction of the out-of-containment costs. Plans for testing additional decontamination techniques are in process which may be more effective than those evaluated during the previous experiment.

Simpson Question 8: Of the cleanup work conducted to date, has the actual cost of such activities been consistent with your estimates of what the work would cost?

Response: The actual cost and schedule experience of cleanup activities to date have generally been consistent with our estimates. Physical work in the plant has typically progressed better than anticipated but engineering, design and construction components of the work have, in general, been in excess of initial estimates. Overall, experience to date leads us to be optimistic that we can complete the cleanup within the total cost estimate.

Simpson Question 9: You note in your testimony that "the potential value of fuel and material examination alone could easily reduce federal nuclear R&D efforts by several hundred million dollars." Specifically, what amounts do you have in mind? Do your estimates exceed the $123 million of R&D activity identified by DOE, and, if so, what activities not included in DOE's assessment have you identified?

Response: The DOE and NRC have conducted a variety of experiments in which small scale but, nonetheless expensive, models of nuclear fuel are subjected to accident conditions. If the fuel from TMI is properly evaluated and analyzed, it could cause the elimination of many of these experiments, which could cause a reduction in potential federal R&D efforts by several hundred million dollars. A portion of the $123 million of R&D activity already authorized includes the cost of obtaining this fuel for analysis and includes some of the costs of analysis. Our estimate is based on a report by Energy Incorporated entitled "Three Mile Island, A Technological Reservoir," January 8, 1982.

Simpson
Question 10: If S.1606 becomes law, and the other pieces of the Thornburgh proposal fall into place, will the yearly funds available to GPU be sufficient in each year of the 6-year cleanup program to cover yearly costs, as identified in the most recent cost estimate?

Response: While the July 1, 1981, cost estimate contains year-to-year variances in the forecast cash flow, we believe that if the Thornburgh proposal were fully implemented, the annual funding would be sufficient to pursue the cleanup basically as planned.

Simpson
Question 11: If an unlimited source of funds were available for the cleanup of TMI-2 today, please describe the cleanup program that would be pursued, including the schedule for that program.

Response: If an unlimited source of funds were available for the cleanup of TMI-2 today, the overall plan would closely resemble the Project Estimate, Revision 1, issued in July 1981. The scheduled dates for key milestones in the July 1981 Project Estimate are as follows:

° Initiate processing of containment sump water	July 1981
° Construction Remobilization	January 1982
° Complete containment sump water processing	January 1982
° Initiate containment decontamination	August 1982
° Reactor vessel head removal	December 1983
° Completion of auxiliary/fuel building cleanup	January 1984
° Reactor fuel removal	February 1985
° Containment decontamination complete	August 1986

Our judgment is that the planned sequence of events, cost, and schedule as developed last July remains reasonable and would not be extended appreciably because of the limited funds in 1982.

Responses to Questions from Senator Hart

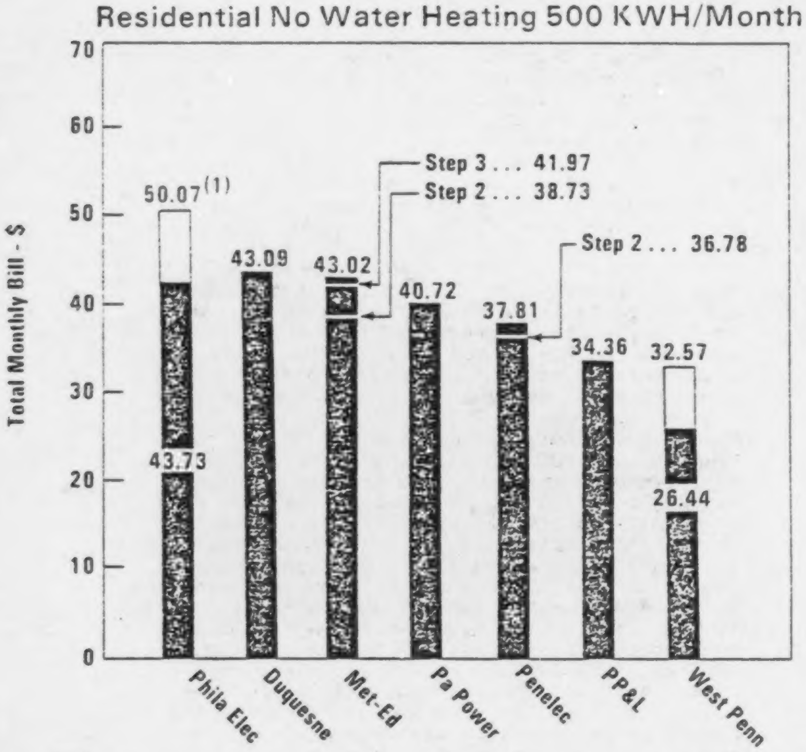
Hart
Question 1: I understand last fall you said the TMI-2 cleanup "is not the ratemaking burden that some tended to think when we first addressed the issue." You said that an average 10% rate increase for the next six years would cover the full cost of the cleanup. You added, "Even if the full burden were laid on the company, the rates of our customers will not be out of line with customers of other companies."

Given the rate increase granted by the Pennsylvania PUC last January, what additional rate increase is necessary to finance the cleanup? Do you still agree that if such an increase were granted your rates will not "be out of line" with those of other companies? Please explain. On what basis have you made that comparison?

Response: Assuming the current increase granted by the Pennsylvania PUC and assuming the existing rates applicable to our New Jersey customers, the full burden of cleanup would increase customer rates by 5% per year for Penelec; 11% per year for Met-Ed and 3% per year for Jersey Central. The resultant rates would place our Pennsylvania customers' rates among the highest in the Northeast and our Jersey Central customers among the highest in the country. Tables 1a and 1b show how our companies' rates compare with the region's. Table 2 shows the average customer rates in ¢/kwh, for 230 U.S. utilities. When coupled with the fact that our customers have a higher average monthly use than many other companies, the impact of such a burden is quite severe to our customers. (See attached Table 3.)

Since the accident, Met-Ed's rates have increased by about 90% and Jersey Central's by about 70% (or 113% if currently pending increases are granted in full).

Typical Bill Comparisons
Penelec & Met-Ed Compared to Other Pennsylvania Utilities



▨ Rates in effect April 10, 1982

☐ Upon effectiveness of settlement steps for Met-Ed & Penelec or if pending rate increases were granted in full.

¢/KWH:

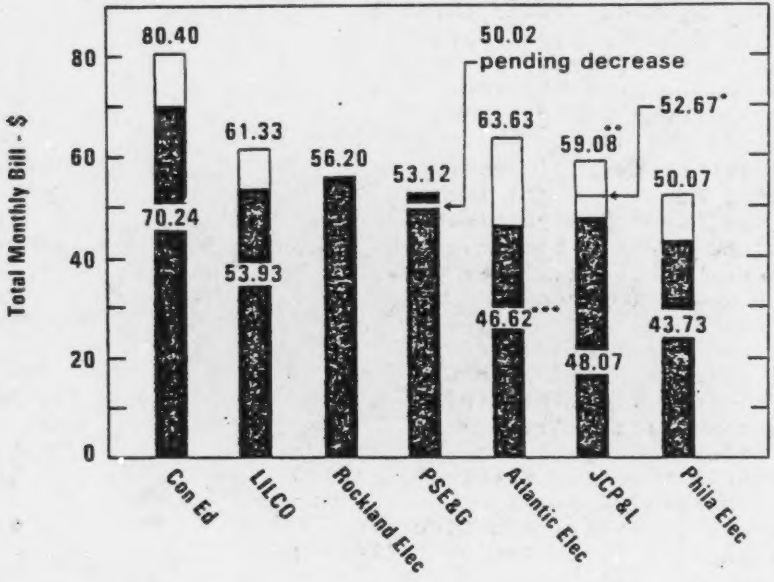
▨	8.7	8.6	8.6	8.1	7.6	6.9	5.3
☐	10.0	-	7.7[2]	-	7.4[2]	-	6.5

(1) Reflects pending Philadelphia Electric Company proposal to reduce their Energy Cost Rate to 0 effective 5/1/82 through 12/21/82, as well as their pending base rate increase.

(2) With all 3 steps of settlements

Typical Bill Comparisons
Jersey Central and Neighboring Utilities

Residential No Water Heating 500 KWH/Month



▨ Rates (winter) in effect April 26, 1982

☐ If pending rate increase were granted in full

¢/Kwh:

▨	14.0	10.8	11.2	10.6	9.3	9.6	8.7
☐	16.1	12.3	-	10.0	12.7	11.8	10.0

*Reflects pending LEAC ($3.85) and ONTARIO HYDRO ($0.75) petitions.

**Reflects pending BASE RATE CASE ($6.41), composed of: base rate request ($9.51) offset by estimated TMI-1 energy savings ($2.30) and expiration of deferred energy surcharge ($0.80).

***Reflects interim LEAC order of 4/1/82.

UTILITY	RATE ¢/kwh
Washington Water Power (Idaho)	1.82
Pacific Power & Light (Montana)	2.02
Washington Water Power (Wash.)	2.44
Pacific Power & Light (Idaho)	2.53
Idaho Power (Idaho)	2.76
Puget Sound Power & Light	2.77
Pacific Power & Light (Cal.)	2.91
Citizens Utilities (Idaho)	2.91
CP National Corp. (Oregon)	2.94
Pacific Power & Light (Oregon)	2.94
Pacific Power & Light (Wash.)	3.22
Portland General Electric	3.30
Montana-Dakota Utilities (Wy.)	3.37
Idaho Power (Oregon)	3.40
Montana Power	3.43
Utah Power & Light (Idaho)	3.48
Southwestern Electric Power (LA)	3.61
Pacific Power & Light (Wy.)	3.75
Edison Sault Electric	3.93
CP National Corp. (Elko, Nev.)	4.01
Indiana & Michigan Electric (Mich.)	4.03
Upper Peninsula Power	4.37
Northwestern Wisconsin Electric	4.38
Southwestern Electric Power (Texas)	4.46
Empire District Electric (Ark.)	4.47
Public Service of Oklahoma	4.54
Tennessee Valley Authority	4.60
Southwestern Electric Power (Ark.)	4.60
Centrel Telephone & Utilities (S. Colo. Div.)	4.61
Mississippi Power	4.67
Union Electric (Iowa)	4.67
Oklahoma Gas & Electric (Ark.)	4.71
Wisconsin Electric Power (Mich.)	4.78
Kansas City Power & Light (Mo.)	4.80
Old Dominion Power	4.81
Michigan Power	4.81
Kentucky Power	4.82
Citizens Utilities (Vermont)	4.82
Southern Indiana Gas & Electric	4.84
Wisconsin Public Service (Mich.)	4.87
Empire District Electric (Kansas)	4.91
Kansas City Power & Light (Kansas)	4.92
South Beloit Water, Gas & Electric	4.97
Potomac Electric Power (DC)	4.99
Consumers Power	5.01
Nevada Power	5.03
Northern States Power (ND)	5.03
Wisconsin Electric Power (Wisc.)	5.05
Northern States Power (Wisc.)	5.06
Empire District Electric (OK)	5.07
Cheyenne Light, Fuel & Power	5.10

Union Electric (Mo.)	5.11
Utah Power & Light (Wy.)	5.12
Lake Superior District Power (Mich.)	5.16
Indianapolis Power & Light	5.16
Madison Gas & Electric	5.17
Arkansas Power & Light (Ark.-Mo. Div.)	5.19
Kingsport Power	5.20
Arkansas Power & Light (Mo.)	5.20
Gulf States Utilities (LA)	5.23
Appalachian Power (WV)	5.23
Nantahala Power & Light	5.23
Union Electric (Ill.)	5.25
West Penn Power	5.33
New Mexico Electric Service	5.35
Indiana & Michigan Electric (Ind.)	5.40
Ohio Power	5.41
Cincinnati Gas & Electric	5.42
Louisville Gas & Electric	5.44
Sierra Pacific Power (Cal.)	5.47
Kentucky Utilities	5.59
St. Joseph Light & Power	5.59
Central Louisiana Electric	5.60
Minnesota Power & Light	5.60
Duke Power (SC)	5.61
Black Hills Power & Light (SD)	5.62
Kansas Gas & Electric	5.65
Louisiana Power & Light	5.68
Georgia Power	5.70
Duke Power (NC)	5.70
Oklahoma Gas & Electric (OK)	5.73
Potomac Edison (MD)	5.73
Iowa Southern Utilities	5.74
Northern States Power (SD)	5.79
CP National Corp. (Winnemucca, Nev.)	5.80
Black Hills Power & Light (Wy)	5.80
Potomac Edison (VA)	5.80
Missouri Power & Light	5.80
Home Light & Power	5.82
Black Hills Power & Light (Montana)	5.82
Southern California Water	5.83
Monongahela Power (Ohio)	5.85
Arkansas Power & Light (Ark.)	5.86
Appalachian Power (VA)	5.89
Wisconsin Public Service (Wisc.)	5.92
Niagara Mohawk Power	5.93
Northern States Power	5.95
Detroit Edison	5.96
Alpena Power	5.99
Alabama Power	6.01
Monongahela Power (WV)	6.04

New Orleans Public Service	6.05
New York State Electric & Gas	6.05
Montana-Dakota Utilities (Montana)	6.10
Iowa Power & Light	6.11
Dallas Power & Light	6.15
Empire District Electric (Mo.)	6.15
Central Telephone & Utilities (Western Div)	6.17
Texas Power & Light	6.18
UGI Corp. (Luzerne Electric Div.)	6.21
Missouri Utilities (Southeast Div.)	6.25
Wheeling Electric	6.30
West Texas Utilities	6.32
Lake Superior District Power (Wisc.)	6.33
Southern California Edison	6.34
Central Power & Light	6.34
CP National Corp. (Needles, Cal.)	6.35
Central Illinois Public Service	6.35
Commonwealth Edison (Chicago)	6.36
Commonwealth Edison (outside Chicago)	6.41
Virginia Electric & Power (WV)	6.44
Kansas Power & Light	6.46
Iowa-Illinois Gas & Electric (Iowa)	6.46
Missouri Edison	6.46
Missouri Utilities (Central Div.)	6.46
Cambridge Electric Light	6.46
Potomac Electric (Prince Georges Co.)	6.49
Gulf Power	6.50
Gulf States Utilities (Texas)	6.56
Wisconsin Power & Light	6.56
Potomac Electric (Montgomery Co.)	6.59
Southwestern Public Service (NM)	6.60
Interstate Power (Ill.)	6.61
Utah Power & Light (Utah)	6.66
Central Maine Power	6.67
Massachusetts Electric	6.68
Southwestern Public Service (OK)	6.69
Texas Electric Service	6.72
Otter Tail Power (SD)	6.72
Southwestern Public Service (Kansas)	6.83
Houston Lighting & Power	6.85
Tempe Electric	6.86
Green Mountain Power	6.86
Pennsylvania Power & Light	6.87
Pennsylvania Power	6.89
Montana-Dakota Utilities (ND)	6.92
Illinois Power	6.93
Carolina Power & Light (NC)	6.95
Superior Water, Light & Power	6.95
Interstate Power (Iowa)	6.98
Baltimore Gas & Electric	7.00

Rochester Gas & Electric	7.00
Southwestern Public Service (Texas)	7.01
Carolina Power & Light (SC)	7.01
Iowa Electric Light & Power	7.01
Granite State Electric	7.02
South Carolina Electric & Gas	7.07
Narragansett Electric	7.08
Pacific Gas & Electric	7.09
Otter Tail Power (ND)	7.09
Potomac Electric Power (VA)	7.11
Columbus & Southern Ohio Electric	7.21
Maine Public Service	7.24
Virginia Electric Power (VA)	7.27
Toledo Edison	7.32
Public Service of Indiana	7.36
Iowa-Illinois Gas & Electric (Ill.)	7.37
Cleveland Electric Illuminating	7.37
Conowingo Power	7.41
Bangor Hydro-Electric	7.41
Tucson Electric Power	7.50
Montana-Dakota Utilities (SD)	7.54
Savannah Electric & Power	7.55
Sierra Pacific Power (Nev.)	7.59
Virginia Electric & Power (NC)	7.60
Pennsylvania Electric	7.60
Missouri Public Service	7.70
Central Illinois Light	7.70
Philadelphia Electric	7.70
Dayton Power & Light	7.72
Florida Power	7.74
Exeter & Hampton Electric	7.78
Ohio Edison	7.83
Pennsylvania Electric (with cleanup)	7.83
Florida Power & Light	7.84
Texas-New Mexico Power (Texas)	7.90
Public Service of New Hampshire	7.97
Blackstone Valley Electric	7.98
Duquesne Light	8.07
Arizona Public Service	8.17
Eastern Edison	8.29
El Paso Electric (NM)	8.34
Northern Indiana Public Service	8.35
Public Service of New Mexico	8.52
Delmarva Power & Light (MD)	8.56
Metropolitan Edison	8.62
Iowa Public Service	8.67
Newport Electric	8.71
Otter Tail Power (Minn.)	8.73
El Paso Electric (Texas)	8.85
Concord Electric Company	8.88

Central Vermont Public Service	8.85
Interstate Power	8.94
Pike County Light & Power	8.99
Hartford Electric Light	9.00
Boston Edison	9.16
Commonwealth Electric Co.	9.22
Metropolitan Edison (with cleanup)	9.25
Texas-New Mexico Power Co.	9.25
Connecticut Light & Power	9.29
Citizens Utilities (Lake Havasu City, AZ)	9.36
Bozrah Light & Power	9.51
Western Massachusetts Electric	9.51
Citizens Utilities (Kingman, AZ)	9.54
Northwestern Public Service	9.59
San Diego Gas & Electric	9.60
Jersey Central Power & Light	9.61
Jersey Central Power & Light (with cleanup)	9.81
Delmarva Power & Light (Va.)	9.84
CP National (Lassen, CA)	9.86
Public Service Co. of Colorado	9.88
Public Service Electric & Gas	10.00
Jersey Central (with cleanup & TMI-2 amort.)	10.09
Fitchburg Gas & Electric	10.12
Central Hudson Gas & Electric	10.13
Atlantic City Electric	10.14
Delmarva Power & Light (Del.)	10.26
United Illuminating	10.28
Citizens Utilities (Nogales, AZ)	10.38
Rockland Electric	10.78
Long Island Lighting	11.01
Hawaiian Electric Light	11.82
Orange and Rockland Utilities	12.10
Hawaiian Electric	12.43
Consolidated Edison	13.17
Citizens Utilities (Hawaii)	16.27

NOTES

- All rates, unless otherwise noted, were in effect on January 1, 1982, for residential customers using 500 kwh's.

- Metropolitan Edison and Pennsylvania Electric rates are represent those in effect today based on a January 8, 1982 Pennsylvania Public Utility Commission order.

- Estimates of GPU utility rates "with cleanup" are based on a projected $100/year from GPU ratepayers.

AVERAGE ANNUAL RESIDENTIAL ELECTRIC BILLS
PRIVATELY-OWNED U.S. UTILITIES
YEAR 1981

State	Utility	Average Annual Use Per Customer (Kwh)	Average Rate Per Kwh (cents)	Average Annual Bill ($)
Alabama	Alabama Power	10 621	5.62¢	$ 597
Alaska	Alaska Electric Light & Power	9 048	4.59	416
Arizona	Arizona Public Service	10 247	6.65	681
Arkansas	Arkansas Power & Light	9 647	5.84	563
California	Southern California Edison	5 879	6.69	393
Colorado	Public Service of Colorado	5 701	5.85	334
Connecticut	Connecticut Light & Power	7 548	7.85	592
Delaware	Delmarva Power & Light (Cons.)	7 967	8.26	658
District of Columbia	Potomac Electric Power	6 310	5.83	368
Florida	Florida Power & Light	11 216	6.75	757
Georgia	Georgia Power	10 273	4.84	497
Hawaii	Hawaiian Electric	7 173	11.38	816
Idaho	Idaho Power	14 054	2.99	421
Illinois	Commonwealth Edison	6 291	7.13	449
Indiana	Public Service of Indiana	10 329	5.00	516
Iowa	Iowa Power & Light	7 988	6.22	497
Kansas	Kansas Power & Light	7 545	5.41	408
Kentucky	Kentucky Utilities	10 259	4.77	490
Louisiana	Louisiana Power & Light	13 791	5.33	735
Maine	Central Maine Power	6 777	6.71	455
Maryland	Baltimore Gas & Electric	7 848	6.11	479
Massachusetts	Boston Edison	5 190	9.54	495
Michigan	Detroit Edison	6 243	6.34	396
Minnesota	Northern States Power	6 618	5.13	339
Mississippi	Mississippi Power & Light	11 078	6.05	670
Missouri	Union Electric	9 002	4.92	443
Montana	Montana Power	7 977	3.31	264
Nevada	Nevada Power	14 527	4.08	593
New Hampshire	Public Service of New Hampshire	6 949	8.65	601
New Jersey	Public Service Electric & Gas	5 261	9.35	492
	Jersey Central Power & Light (1)	7 982	8.55	683
New Mexico	Public Service of New Mexico	5 698	7.30	416
New York	Consolidated Edison	3 231	14.85	480
North Carolina	Duke Power	12 392	4.51	559
North Dakota	Otter Tail Power	9 190	5.24	482
Ohio	Ohio Edison	7 760	6.56	509
Oklahoma	Oklahoma Gas & Electric	10 599	4.80	509
Oregon	Pacific Power & Light	12 091	3.28	397
Pennsylvania	Philadelphia Electric	6 667	8.04	536
	Metropolitan Edison (1)	7 660	6.88	527
	Pennsylvania Electric (1)	6 895	5.95	411
Rhode Island	Narragansett Electric	5 562	8.90	495
South Carolina	South Carolina Electric & Gas	12 183	5.89	718
South Dakota	Northwestern Public Service	7 354	7.57	557
Tennessee	Tennessee Valley Authority (2)	14 250	4.07	579
Texas	Houston Lighting & Power	13 590	6.29	855
Utah	Utah Power & Light	7 821	6.34	496
Vermont	Central Vermont Public Service	7 866	6.30	494
Virginia	Virginia Electric & Power	10 948	6.04	661
Washington	Puget Sound Power & Light	14 626	2.70	394
West Virginia	Appalachian Power	10 896	4.70	512
Wisconsin	Wisconsin Electric Power	7 149	5.74	411
Wyoming	Cheyenne Light & Power	6 127	3.09	189

(1) GPU Subsidiary Company
(2) Publicly-owned utility

Source: EEI Uniform Statistical Reports or Company Annual Reports. 5/17/82

Hart
Question 2: When will the next financial crunch occur for GPU? Please elaborate upon the circumstances. Under what circumstances would GPU declare bankruptcy? Please discuss the consequences.

Response: The next "financial crunch" we know about should occur in the spring of 1983. At that time, GPU's Metropolitan Edison and Jersey Central Power & Light subsidiaries must pay maturing first mortgage bonds of $50 million and $35 million, respectively. Additionally, Metropolitan Edison must pay about $25 million in state taxes shortly after the $50 million of debt becomes due. These and other GPU System cash needs will be paid off primarily through internally generated cash supplemented with modest bank borrowings, if available. GPU's forecasts show that, with working capital loans available from a renewed credit agreement in 1983, both Metropolitan Edison and Jersey Central can meet the peak cash needs in the spring of 1983 and materially reduce bank borrowings by the end of 1983, under the assumption that TMI-1 returns to service and base rates in early 1983. However the banks, who are providing us with short-term credit, have informed us that renewal of the current credit agreement (which expires 12/31/82) will depend upon further progress on TMI-1 restart, TMI-2 cleanup funding and ratemaking progress. If the banks do not renew the credit agreement then our next "crunch" would come in December of this year.

GPU does not presently foresee any likely circumstances under which a bankruptcy declaration would be justified. GPU's current financial problems are mostly the result of the removal of TMI-1 and TMI-2 from the base rates of the GPU subsidiaries, the TMI-2 cleanup expense that has been or will be incurred and our lack of creditworthiness. Until the owners' earnings are restored, neither GPU nor any of its subsidiaries has access to permanent capital markets. The bonds and debentures of each GPU subsidiary are rated below investment grade by such rating agencies as Moody's and Standard & Poor's. GPU's common stock is currently paying no dividend and its market price is about 20% of book value. It is unlikely that GPU's access to capital markets will be restored until TMI-1 returns to rate base and a funding program is put in place for the decontamination of TMI-2.

In the longer term, the owners' major problems are to put into place a funding package for TMI-2 cleanup and to improve earnings adequately to finance construction of new facilities to serve customers. The amount of construction and TMI-2 cleanup that can be accomplished is dependent on the ratemaking treatment of the owners and the success of current efforts to obtain outside funding of the cleanup.

Both TMI-2 cleanup and adequate new construction are necessary in the long term to protect the health and safety of the public and provide reliable electric service to GPU's customers. Independent studies commissioned by the PaPUC (Theodore Barry and Associates) and NJBPU (Arthur Young) have concluded that bankruptcy is not an acceptable alternative for the TMI owners. Virtually all of the testimony before these regulatory bodies agrees with this conclusion. As a result, both the PaPUC and NJBPU have publicly stated that they intend to take action to prevent insolvency or bankruptcy of any of GPU's subsidiaries. In view of these statements and the willingness of the PaPUC and NJBPU to return TMI-1 to rate base when approved for restart, the owners' expect to obtain adequate revenue and earnings to operate TMI-1 and to fund the necessary construction to serve the electric system.

In summary, the potential for bankruptcy for GPU and its subsidiaries is unlikely, due to recent rate orders, pending (expected) rate orders, continuation of credit by the Revolving Credit Agreement banks and our belief that our regulators do not believe bankruptcy to be in the interest of the customer. Bankruptcy potential remains low for the foreseeable future, assuming return of TMI-1 to service and rate base, adequate rate relief, and appropriate funding of the TMI-2 cleanup.

Hart
Question 3: Under ideal financial circumstances, how much would GPU spend each year to cleanup TMI-2 as quickly as possible?

Response: See response to Simpson Question 10.

Hart Question 4: When do you think TMI-1 will go back into operation? How much will it cost to repair or replace the corroded tubing in the steam generator? How long will it take? How much money has GPU spent preparing TMI-1 for restart?

Response: From a technical standpoint, TMI-1 could resume operation by the end of this year. Matters related to the issue of pyschological stress, however, could delay restart into 1983. GPU continues to investigate and analyze the cost of TMI-1 steam generator tube problems and appropriate repair techniques. This program of investigation and analysis has resulted in an understanding of the cause of the corrosion which gives us a high degree of confidence that the steam generators can be returned to reliable service by plugging about 2% of the tubes and repairing the balance. The repair is expected to be completed about September 1982. The current estimate for the cost of TMI-1 steam generator investigation and repair program is $25 million. We estimate that from July 1979 through April 1982, $90-95 million has been expected on efforts related to restart of Unit 1.

Hart Question 5: In light of the results of the May 18 referendum, what actions will GPU take to build public confidence in its ability to operate the Three Mile Island Unit 1 nuclear power plant?

Response: GPU Nuclear Corporation intends to continue, to expand and to further pinpoint its program of public information. This program includes publication of articles, increased tours for the public at the site, and expanding speakers' bureau serving area organizations and close communication with local public officials and other groups. In addition, the use of commercial television, suspended during the pre-referendum period, will be resumed.

Hart Question 6: If the NRC refuses to permit restart of Unit 1, how will that decision affect your financial position? What contingency plans have you developed for such an event?

Response: GPU fully expects to be able to restart TMI-1. This expectation has led us to include restart of TMI-1 and return of that Unit to base rates in 1983 in our financial forecasts. As previously described, return of TMI-1 to operation and base rates is an absolutely essential element in the financial recovery of the GPU System. Assuming that TMI-1 restart is not allowed the financial impact would be devastating. The Revolving Credit Agreement Banks view the TMI-1 restart and progress on TMI-2 cleanup funding as essential conditions which will influence their willingness to renew the current credit agreement (which expires on December 31, 1982). GPU does not know of any other financial institutions currently willing to lend to GPU or its subsidiaries.

Hart
Question 7: I understand GPU has conducted an advertising compaign to convince the public that TMI-1 can be safely restarted. Please describe the activities conducted as part of this campaign. How much has GPU spent on this campaign? How much more does it intend to spend? What results do you expect?

Response: In September 1981, GPU instituted a radio and television effort to better inform the local public of the status of activities at Three Mile Island. These advertisements consisted of thirty and sixty second spots called, "Status Reports on Three Mile Island." They were not advocacy ads that urged the public to take a position or, in fact, to do anything. They were an effort to inform the public of the progress of the cleanup of Unit 2, the status and findings of the ongoing public hearings regarding the restart of Unit 1, and of the organizational and physical plant changes at TMI in response to the accident findings.

GPU has spent a total of about $331,000 on this effort to date; $198,916 was spent in 1981 and $131,856 thus far in 1982. These production and time-buy costs were paid for by the shareholders of GPU.

At this time, the additional funds to be spent on this effort cannot be precisely estimated because of the uncertainties yet remaining in the schedule and events associated with both the restart of Unit 1 and cleanup of Unit 2. However, it is likely that an amount roughly equal to that already spent will be involved in this continuing public information effort.

Since the accident, the Company has periodically conducted public opinion surveys on key issues in the TMI area. Some of these involve questions relating to this public information advertising and, it is the Company's intention to continue to sample public opinion as the program goes ahead so as to determine the results of the effort.

We would hope that through this factual public information campaign we can increase public confidence in the regulatory process associated with approval for the restart of Unit 1 and the Company's ability to safely operate the plant while cleaning up Unit 2.

Responses to Questions on Rates

(Questions 1 through 4 are addressed in the four attached tables.)

JERSEY CENTRAL POWER & LIGHT COMANY

Class of Customers	Number of Customers (000s)	Average Rate of Consumption (Kwh)	Average Rate per Kilowatt hour as of December 31, 1981 (cents)
Ultimate Customers			
Residential	642	7,982	8.55
Commercial	69	53,323	8.16
Industrial	3	1,338,668	6.51
Other	1	97,286	15.56
Total Ultimate Customers	715	17,718	7.88
Resale Customers	-[2]	49,755,333[1]	4.68
Total Customers	715	18,137	7.81

Data Source: Uniform Statistical Report
Year Ended Dec. 31, 1981
Page E-14

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[1] The average rate of consumption is not really applicable to this class due to the widely varied amounts consumed by the different users in this class.

[2] Number of customers is 6

METROPOLITAN EDISON COMPANY

Class of Customers	Number of Customers (000s)	Average Rate of Consumption (Kwh)	Average Rate per Kilowatt hour as of December 31, 1981 (cents)
Ultimate Customers			
Residential	324	7,660	6.88
Commercial	38	45,559	6.39
Industrial	2	1,494,779*	5.30
Other	1	145,634	7.35
Total Ultimate Customers	365	20,768	6.11
Resale Customers	–[2]	23,511,222[1]	3.54
Total Customers	365	21,350	6.04

Data Source: Uniform Statistical Report
Year Ended Dec. 31, 1981
Page E-14

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[1] The average rate of consumption is not really applicable to this class due to the widely varied amounts consumed by the different users in this class.

[2] Number of customers is 9.

PENNSYLVANIA ELECTRIC COMPANY

Class of Customers	Number of Customers (000s)	Average Rate of Consumption (Kwh)	Average Rate per Kilowatt hour as of December 31, 1981 (cents)
Ultimate Customers			
Residential	455	6,895	5.95
Commercial	56	45,124	5.42
Industrial	5	960,452*	4.27
Other	1	63,019	10.42
Total Ultimate Customers	517	20,030	5.09
Resale Customers	- [2]	82,611,583 [1]	3.83
Total Customers	517	21,951	4.98

Data Source: Uniform Statistical Report
Year Ended Dec. 31, 1981
Page E-14

[1] The average rate of consumption is not really applicable to this class due to the widely varied amounts consumed by the different users in this class.

[2] Number of customers is 12.

GENERAL PUBLIC UTILITIES SYSTEM

Class of Customers	Number of Customers (000s)	Average Rate of Consumption (Kwh)	Average Rate per Kilowatt hour as of December 31, 1981 (cents)
Ultimate Customers			
Residential	1,421	7,560	7.41
Commercial	163	48,704	6.90
Industrial	10	1,186,064*	5.28
Other	3	109,711	10.07
Total Ultimate Customers	1,597	19,164	6.50
Resale Customers	- [2]	55,610,074[1]	3.96
Total Customers	1,597	20,107	6.38

Data Source: Uniform Statistical Report
Year Ended Dec. 31, 1981
Page E-14

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[1] The average rate of consumption is not really applicable to this class due to the widely varied amounts consumed by the different users in this class.

[2] Number of customers is 27.

Rate
Question 5: What is the anticipated change, either up or down, in demand for electrical power in the GPU service area over the next six years? Can you identify any individual factors, e.g. new customers, use changes, which will cause this change if any?

Response: The system requirement for electric power in the GPU service area over the next six years (1982 - 1988) is projected to increase by an average 2.1% per year. This change in demand for electricity is expected mainly as a result of the addition of new customers to the GPU system and includes the assumption of the benefits of an aggressive conservation and load management program mounted by GPU in 1980. Following is a breakdown of GPU's electrical requirement by major class of customers.

Residential Non-Total Electric Class

Electric sales to this class of residential customer, which does not have electric heating, is expected to increase an average of 1.0% per year from 1982 to 1988. Almost all of this growth is forecasted to come from new customers. Use per customer will increase very slightly because of conservation and improved appliance efficiency.

Residential Total Electric Class

This class of customer has electric heating, and sales are projected to rise an average of 3.5% per year. All of this growth would be due to new customer additions. Use per customer is expected to decrease as a result of significant conservation during the heating months, more energy efficient homes and improved appliance efficiencies.

Commercial Class

Commercial electric sales from 1982 to 1988 are forecasted to increase an average of 2.9% per year. This class has and will continue to exhibit strength in terms of electric sales growth because of the continuing trend towards a more service oriented economy in the GPU system.

The commercial class is made up of heterogeneous customers which are not significantly affected by economic cycles. Customers in this class include office buildings, shopping centers, restaurants, churches, gas stations, schools, etc.

Industrial Class

Industrial electric sales are forecasted to increase by an average of 1.8% per year from 1982 to 1988. This growth is expected to come from new customers and expansion of existing facilities.

The key driving force of industrial electric sales is the economy. Electric consumption by this class is directly a function of changes in industrial production.

Rate Question 6: What would be the cost to GPU customers, in rate per kilowatt hour, if GPU were to pass the $190 million, which S. 1606 authorizes to be paid by the federal government when collected from other utilities, through to its own ratepayers over a six year period?

Response: See response to Simpson Question 5.

Responses to Questions from Senator Gorton

Gorton Question 1: What percentage of GPU's assests are involved in the Three Mile Island facilities which would be "cleaned up" with the funds made available by S. 1606?

Response: As shown by the attached schedule, the GPU System's investment in TMI-2 was $722 million as of December 31, 1982, representing approximately 14% of the System's total assets of $5.1 billion as of that date. There has been no material change in either GPU's TMI-2 investment or its total assets since then.

Gorton Question 2: What was the effect of the loss of power generation from TMI-1 and 2 on the generating capacity of GPU?

TMI-2 PLANT INVESTMENTS
At 12/31/81

Original Cost	Met-Ed	Penelec	JCP&L	Total
Nuclear				
- Depreciable	355 751 227	176 834 865	165 378 294	697 964 386
- Depreciable, Common (50%)	2 563 051	1 270 677	928 595	4 762 323
	358 314 278	178 105 542	166 306 889	702 726 709
- Land	6 513	6 204	10 786	23 323
Total	358 320 791	178 111 566	166 317 675	702 750 032
Transmission				
- Step-up, Transformer	1 876 900	932 404	870 273	3 679 577
Total	360 197 691(a)	179 043 970(a)	167 187 948(b)	706 429 609
Accum. Depreciation				
Nuclear - Reserve	969 730	2 530 580	17 407 403	20 907 713
Transmission				
- Step-Up, Transformer	3 858	10 830	71 835	86 523
Total	973 588(c)	2 541 410(c)	17 479 238(d)	20 994 236
Net Plant				
Nuclear, Incl. Common (50%)				
- Depreciable	357 344 548	175 574 962	148 899 486	681 818 996
- Land	6 513	6 024	10 786	23 323
Subtotal	357 351 061	175 580 986	148 910 272	681 842 319
Transmission				
- Step-up, Transformer	1 873 042	921 574	798 438	3 593 054
Total	359 224 103	176 580 986	148 910 272	681 842 319
TMI-2 Core	18 485 652(e)	9 092 704(e)	9 219 629(f)	36 797 985
Total TMI-2 & Core (g)	377 709 755	185 595 264	158 928 339	722 233 358

NOTES:
(a) In Property Held for Future Use.
(b) In Plant in Service.

(c) In Accumulated Provision for Depreciation subaccount re: Property Held for Future Use.

(d) In Accumulated Provision for Depreciation re: Plant in Service.

(e) In Property Held for Future Use. To be transferred from Future Use back to a separate Deferred Debits subaccount per 3/8/82 discussion with E. J. Holcombe.

(f) In Misc. Deferred Debits.

(g) Excludes CWIP & certain undetermined Deferred Debit amounts potentially capitalizable to plant.

Response: TMI 1 and 2 represented a total of about 1656 MW of capacity. Their current loss results in a 20% reduction in GPU's overall capacity and 40% reduction in Met-Ed's overall capacity.

Gorton Question 3: What was the effect of the loss of power generation from TMI 1 and 2 on the net earnings of GPU in 1980, 1981?

Response: Although the GPU System experienced earnings reductions as a result of having to finance TMI replacement power costs until they were ultimately recovered from customers, the major earnings impact of the accident resulted from the elimination of the capital and operating costs of the TMI Units from the GPU Companies' rates by the State Commissions of Pennsylvania and New Jersey. We estimate that these rate reductions, together with other indirect effects of the accident, have reduced GPU's earnings about $370 million through the end of last year, as follows:

GPU System
Estimated Earnings Lost
Due to TMI-2 Accident
($millions)

1979	1980	1981	Total Through 1981
$60	$130	$180	$370

For perspective, in 1978 the last full year before the accident GPU had earnings of 138 million. Additionally, since the accident through May 1982, GPU has reduced or omitted dividends aggregating $312 million, and the market value of its common stock has declined by about $760 million.

Gorton Question 4: Was any of the cost experienced by GPU in connection with the accident at TMI 2 or with the current loss of power generation at TMI 1 and 2 passed on to the GPU ratepayer in the form of higher rates.

Response: Customer costs have increased 296 million as a result of the accident. The attached schedules indicate for each GPU Company and the GPU System as a whole the detailed rate increases (and decreases) that have occurred as a result of the accident during the period from April 1979 through December 1981. Replacement power costs, net of TMI-related base rate reductions, continue to be billed in 1982, and additionally, effective in January 1982, the Pennsylvania Public Utility Commission ("PaPUC") authorized recovery of Met-Ed's and Penelec's investment in TMI-2 at the rate of $62 million and $30 million per year, respectively. The PaPUC has also authorized customer funding of TMI-2 cleanup costs at levels consistent with the cost-sharing plan proposed by Governor Thornburgh, to become effective upon the return of TMI-1 to service.

Similar approvals for Jersey Central are expected from the New Jersey Board of Public Utilities by the end of June 1982.

GPU SYSTEM
Summary of TMI-2 Accident-Related Rate Changes, April 1979 Through December 1981
($ millions)

	Retail Customers			Resale Customers	
	Jersey(1) Central	Met-Ed(2)	Penelec(3)	(All)	GPU System
Increased energy clause charges for replacement power costs	$248	$324	$122	$33	$727
Base rate reductions to eliminate TMI capital & operating costs	(121)	(196)	(95)	-	(412)
Tax surcharge reductions associated with base rate reductions	-	(13)	(6)	-	(19)
Net accident impact	$127	$115	$ 21	$33	$296

(1) From page 2.
(2) From page 3.
(3) From page 4.

JERSEY CENTRAL
TMI-2 Accident-Related Retail Rate Changes, April 1979 Through December 1981
($ millions)

	Increased Energy Clause Charges for Replacement Power Costs				Base Rate Reductions to Eliminate TMI Capital and Operating Costs								
					TMI-1				TMI-2				
	Effective Date	Annual Amount	Months in Effect Through Dec. 1981	Revenue Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981	Effective Date	Annual Amount	Months in Effect Through Dec. 1981	Revenue Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981	Effective Date	Annual Amount	Months in Effect Through Dec. 1981	Revenue Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981	Total TMI Base Reop Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981
									4/79	$(29)	33	$(80)	$(80)
	7/79	$74	30	$185									
	4/80	34	21	60	4/80	$(18)	21	$(32)				•	(32)
	5/81	5	8	3									
					8/81	(12)*	5	(5)		(9)*	5	(4)	(9)
Period Totals				$248									($121)

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* incremental unrecognized TMI costs above levels initially eliminated from rates.

Met Ed

TMI-2 Accident-Related Retail Rate Changes, April 1979 Through December 1981 ($ millions)

	Increased Energy Clause Charges for Replacement Power Costs				Base Rate Reductions to Eliminate TMI Capital and Operating Costs								
					TMI-1				TMI-2				
	Effective Date	Annual Amount	Months in Effect Through Dec. 1981	Revenue Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981	Effective Date	Annual Amount	Months in Effect Through Dec. 1981	Revenue Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981	Effective Date	Annual Amount	Months in Effect Through Dec. 1981	Revenue Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981	Total TMI Base Reop Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981
	7/79	$49	30	$122					4/79	$(52)	33	$(143)	$(143)
	2/80	55	22	101									
	6/80	76	19	120	6/80	$(27)	19	$(43)					(43)
	4/81	(25)	9	(19)	4/81	(4)*	9	(3)	4/81	(10)*	9	(7)	(10)
Period Totals				$324									$(196)

*incremental unrecognized TMI costs above levels initally eliminated from rates.

Penelec

TMI-2 Accident-Related Retail Rate Changes,
April 1979 Through December 1981
($ millions)

	Increased Energy Clause Charges for Replacement Power Costs				Base Rate Reductions to Eliminate TMI Capital and Operating Costs								Total TMI Base Reop Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981
					TMI-1				TMI-2				
	Effective Date	Annual Amount	Months in Effect Through Dec. 1981	Revenue Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981	Effective Date	Annual Amount	Months in Effect Through Dec. 1981	Revenue Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981	Effective Date	Annual Amount	Months in Effect Through Dec. 1981	Revenue Incr./(Decr.) 33 Months Apr. 1979 Through Dec. 1981	
									5/79	$(27)	32	$(72)	$(72)
	7/79	$21	30	$ 53	6/80	$(12)	19	$(19)					(19)
	6/80	44	19	69	4/81	(3)*	9	(2)	4/81	(2)*	9	(2)	(4)
Period Totals				$122									($ 95)

*incremental unrecognized TMI costs above levels initally eliminated from rates.

Gorton
Question 5: Is there any current pending legal action between GPU and the federal government? Is there any lawsuit intended or contemplatd between GPU and the federal government? If so, which agency is the defendant, what actions give rise to the cause of action alleged, what are the damages or other remedies sought? Would GPU intend to compromise or release the claims which are the basis of any pending action should the federal government contribute to TMI-2 cleanup?

Response: The TMI-2 owners have filed a complaint in the United States District Court for the Eastern District of Pennsylvania under the Federal Tort Claims Act. A copy of that complaint is annexed. Attached to that complaint as Appendix A is a copy of the memorandum and order, dated June 8, 1981, of the Nuclear Regulatory Commission ("NRC") rejecting the administrative claim that the TMI-2 owners had previously filed with the NRC pursuant to the Federal Tort Claims Act.

The United States has filed with the Court a motion to dismiss the TMI-2 owners' complaint in the District Court. The TMI-2 owners expect to file their response to that motion this month.

At this early stage, it is not feasible to predict the future outcome of these proceedings.

Gorton
Question 6: Is there any other current pending legal action against any other parties, e.g. equipment manufacturers, individual employees, insurance companies, which arise from the accident at TMI 2? What facts give rise to those actions? What causes of action are involved. What damages or other remedies are sought?

Response: a. Pending legal action against equipment manufacturers.

The TMI-2 owners filed a complaint against the Babcock & Wilcox Company ("B&W"), the company that furnished the nuclear steam supply system and training and other services, and the latter's patent, McDermott, Incorporated in the United States District Court for the Southern District of New New York. After extensive document discovery and depositions, the TMI-2 owners filed an amended complaint, a copy of which is annexed. The defendants have filed an answer denying liability.

On June 2, 1982, the defendants filed a motion for partial summary judgment. The TMI-2 owners expect to respond to that motion within the next two months.

The trial of this suit is scheduled to begin in October 1982. At this early stage, it is not feasible to predict the future outcome of these proceedings.

b. Claim against insurance companies.

At the time of the TMI-2 accident, the TMI-2 owners were carrying the maximum amount of property damage insurance then available ($300 million). The TMI-2 owners have periodically submitted claims under the insurance policies. Approximately $235 million has been drawn down by the TMI-2 owners to date. The TMI-2 owners expect to receive payment from the insurance companies of the balance of the insurance policy amounts as claims for covered expenditures are made by the TMI-2 owners and submitted to the insurance companies.

c. Other legal actions.

No other legal actions are contemplated, apart from the suit against the United States referred to in response to question number 5.

Gorton Question 7: Are there requests by GPU for financial assistance from other governmental entities to resolve financial problems with respect to other GPU facilities? (Claim to State of New Jersey to bail out Jersey Central?)

Response: Other than the Pennsylvania Public Utility Commission, the New Jersey Board of Public Utilities and the Federal Energy Regulatory Commission, under rate proceedings, GPU has not requested financial assistance from any governmental entity.

Gorton
Question 8: What was the original equity/debt ratio in the capital structure of GPU prior to the construction of Three Mile Island, immediately prior to the accident at TMI 2, and at present?

Response: The attached schedule shows GPU's capital structure in 1969, before significant TMI-2 construction expenditures were made, in 1978, the year immediately preceding the accident, and also as of the end of 1981. There has been no significant change in GPU's capital structure since then.

Gorton
Question 9: What is the current value of the common stock outstanding of GPU?

Response: As of April 30, 1982, the book value of GPU common stock was $1.4 billion, or about $23 per share, based on 61.3 million shares outstanding. On that same date, the market value of GPU's stock was about $322 million ($5.1/4 per share), or about $1.1 billion less than its book value.

GPU SYSTEM
CAPITALIZATION RATIOS, 1969-1981

For the Year Ended December 31	1981	1980	1979	1978	1977	1976	1975
Capitalization Ratio (Percent)							
Long-term debt (including due in one year)	52.7	51.2	51.4	51.4	50.7	52.0	51.5
Preferred stock	12.1	11.9	12.0	12.7	13.4	13.2	13.1
Common stock equity	33.7	33.2	32.6	33.7	34.0	33.2	34.2
Sub-Total	98.5	96.3	96.0	97.8	98.1	98.4	98.8
Notes payable to banks	1.5	3.7	4.0	2.2	1.9	1.6	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

For the Year Ended December 31	1974	1973	1972	1971	1970	1969
Capitalization Ratio (Percent)				42.2	43.8	46.7
Long-term debt (including due in one year)	47.2	53.7	54.6	12.7	10.7	9.0
Preferred stock	11.3	12.0	12.0	8.5	5.1	4.3
Common stock equity	31.9	33.4	33.3	32.2	30.8	32.2
Sub-Total	90.4	99.1	99.9	95.6	90.4	92.2
Notes payable to banks	9.6	.9	.1	4.4	9.6	7.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

TESTIMONY OF
DR. BERNARD J. SNYDER, DIRECTOR
TMI PROGRAM OFFICE, NRC

STATUS OF THE
THREE MILE ISLAND UNIT 2 CLEANUP

U.S. SENATE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

April 28, 1982

Mr. Chairman, I am pleased to be here today to present the Nuclear Regulatory Commission staff testimony on the status of the cleanup of Three Mile Island Unit 2 and the implications that a prolonged cleanup might have on the health and safety of the TMI-2 work force, as well as the general public. As NRC Chairman Palladino testified last October, our principal responsibility is the protection of the health and safety of the public, including the work force at the site, as well as protection of the environment. We are concerned that if the pace of the cleanup is not accelerated, the capability for continued maintenance of the health and safety will become more uncertain. These concerns were also conveyed to you in a letter from the Commission on March 22, 1982. Before I elaborate on our concerns regarding the future status of the plant, I want to briefly give you NRC's views on the legislation you are considering today. I will then provide you with a summary of the cleanup progress to date.

The Energy Committee substitute amendment to S.1606 provides for an assessment by the Department of the Treasury on nuclear utilities in order to provide funds toward the cleanup of TMI-2 over a six-year period. As Chairman Palladino testified last fall in connection with the original proposal for S.1606, while the Commission takes no position on the specific methods of obtaining funds for TMI-2 cleanup proposed in this or other legislation, we welcome the approach encompassed in the proposed legislation as a reasonable mechanism for solving this continuing problem.

More than three years have passed since the accident and progress in the cleanup has been limited. The accident left large bodies of very contaminated water in the basement of the reactor building and in tanks in the auxiliary building. Virtually every exposed surface of the floors, walls and equipment in the reactor, auxiliary and fuel handling buildings was contaminated to varying degrees. The reactor building atmosphere was contaminated with a large inventory of radioactive gases and the water in the reactor coolant system was extensively contaminated with fission products. Lastly, we know that the reactor core suffered significant damage. It is probable that small particles of fuel and cladding, along with control rod and core structural material were distributed throughout the reactor coolant system, with some materials ending up in the lower level of the reactor building. No one knows the actual conditions within the reactor vessel, but realistic estimates suggest that the upper half of the core contains a rubble bed of damaged fuel and other materials. Additionally, some of this material and individual fuel assemblies are suspected to be fused together. This is the condition we believe has existed since the accident in March 1979. It is important to note that the plant has been in a condition for which it was not designed. This situation causes us increasing concern.

The Nuclear Regulatory Commission's program for carrying out its regulatory responsibilities during the TMI-2 cleanup is centered in the TMI Program Office (TMIPO) within the Office of Nuclear Reactor Regulation. Established formally in March 1980, the TMIPO evolved from NRC's early regulatory efforts involved in mitigating the accident and initiating the cleanup. The TMIPO is dedicated solely to the cleanup and consists of technical and management staff located both at NRC headquarters and TMI site. Currently the TMIPO is staffed with approximately 30 technical management and administrative staff. The responsibilities of the TMIPO include the following; 1) overall planning and management of all NRC TMI-2 cleanup activities, 2) approval of licensee cleanup procedures and proposals, 3) coordination with DOE, EPA and other Federal and State agencies, 4) preparation of safety and environmental reviews, and 5) advising the Commission on major cleanup actions. The TMIPO efforts have been given the highest priority category within the agency.

Within several weeks of the accident, the decontamination of the floors, walls, and equipment in the auxiliary and fuel handling buildings was initiated. At present, approximately 70 percent of the contaminated area in these buildings has been cleaned up, but this represents removal of only 10% of the radioactivity since some of the most contaminated and difficult areas were bypassed and remain to be cleaned up.

In addition to the decontamination efforts to date in the auxiliary and fuel handling buildings, other significant cleanup accomplishments include: purging of the contaminated atmosphere from the reactor building, processing of accident generated water which collected in auxiliary building tanks and the reactor building basement, and shipment and disposal of some of the radioactive solid waste generated as a result of cleanup activities. Approximately 750,000 gallons of moderately contaminated water from auxiliary building tanks and 600,000 gallons of highly contaminated water from the reactor building basement have been processed; however, none of this water has been permitted to be disposed of and it is currently stored in on-site tanks. The reactor building atmosphere was purged of the 45,000 curie inventory of krypton-85 which collected during the accident. Finally, 22 lower level radioactive waste resin containers generated as a result of accident water processing and large quantities of other low-level waste, such as compacted trash, have been shipped to a commercial burial site for disposal.

The activities completed to date represents only limited progress toward total plant cleanup. A great deal of difficult work remains to be done. About 5% of the highly contaminated water (approximately 30,000 gallons) and an unknown quantity of contaminated sludge remain in the reactor building basement, and still need to be removed and processed. Another 90,000 gallons of highly contaminated water remains in the reactor coolant system and will require processing. Containers of highly radioactive resin (49) and zeolites (6) remain on-site until steps are taken to make these safe for shipment, considering the hydrogen being generated. The balance of the most contaminated floors and surfaces in the auxiliary building remain to be cleaned up. Although a large-scale experimental program for gross decontamination was conducted over large portions of the reactor building, preliminary results indicate that general area radiation levels have not been reduced sufficiently to support large scale cleanup activities in the building. The entire building will have to undergo further detailed decontamination. Decisions on the degree of further decontamination required await the final results from this experiment. Reduced radiation levels in the reactor building is a pre-requisite for the most difficult task ahead -- the defueling of the damaged core. The defueling will be a long, carefully controlled effort, which is not anticipated to be completed for at least several years. Following defueling, the reactor coolant system surfaces will require decontamination. The processed accident-generated water will require ultimate disposition. The higher level radioactive solid waste resulting from water processing and other decontamination activities will require offsite shipment to a commercial or federal facility for disposal or research, as appropriate. Finally, all fuel assemblies and packaged core debris and internals will require shipment offsite for research and/or disposal. As you are aware, the schedule for the completion of these vital cleanup activities is essentially indeterminate because of uncertainties regarding the availability of funds to support the work. With only limited progress, and no end in sight, we are extremely concerned about the future status of the plant and the licensee's capability for maintaining the plant in a stable condition to adequately protect the on-site work force and offsite public over the long term. Further delays in completing the cleanup can no longer be tolerated.

The risks associated with indefinite delays of the cleanup are real, especially for workers at TMI and, to a lesser extent, for the public offsite. Currently the plant is safe but no one can give assurances that the present situation will remain stable for an indefinite period. Over time, as equipment deteriorates the probability of incidents involving radiation leakage and subsequent exposure to workers and the public will increase.

Several incidents of this type have already occurred. In 1979, leakage of highly contaminated water in the auxiliary building resulted in overexposure to several workers during subsequent maintenance efforts to contain the leakage. In 1980, another leak of highly contaminated reactor coolant caused high airborne levels and contaminated several workers. This past year, an inaccessible valve in the reactor building in a line connected to the reactor coolant system started leaking during testing, increasing the normal system leakage by about a factor of ten until the source could be identified and the valve reseated. During each of the first four months of 1982, separate incidents have occurred. In January, workers inserted an air hose in a contaminated floor drain and spread radioactive material into the auxiliary building atmosphere. This caused alarms on local radiation monitors within the building, as well alarms on the effluent release monitor in the plant exhaust stack. In February some portable instruments used to sample the containment building atmosphere indicated the presence of combustible gases, possibly hydrogen. These readings were subsequently shown to be erroneous, but not before the licensee declared an "unusual event" (the lowest level in their emergency response plan) and made the required offsite notification to local officials. In March, another "unusual event" was declared when increased makeup water was noted to be going into the reactor coolant system, indicating a possible leak. It was determined that a valve was leaking which resulted in spillage of about 150 gallons of water onto the floor when contaminated filters from the reactor coolant purification system were removed. Although each of these events did not cause any harm, they did cause considerable concern among area citizens. Just two weeks ago, a health physics technician was unable to exit from the containment building because the airlock doors were jammed shut. It took nearly an hour before the doors could be opened. Although this individual was never in any danger and received only minimal radiation exposure, this incident does clearly show one of the potential risks that exist for the TMI cleanup workers.

Inevitably, as the result of restricted access to areas of the facility in which high radiation levels persist, maintenance will continue to be limited and equipment will continue to deteriorate. Similar problems can be anticipated to occur in the future. The frequency and risks from these events, although small now, are likely to increase as the cleanup is prolonged. There is also an exceedingly small, but not zero, probability for a criticality accident in the reactor vessel. The present core configuration will remain unknown until at least a camera is inserted to obtain information. There is even some small potential for a criticality event outside of the core because of the unknown quantity of fuel materials which were transported out of the reactor pressure vessel. To the best of our ability, all cleanup activities have been planned, approved and conducted to preclude, with a large margin of safety, criticality anywhere within the plant.

While the incidents to date have been of a controllable nature, it is not inconceivable that a future leakage incident could result in an unisolable leakage from the reactor coolant system. Considering the plant condition, such leakage cannot be ruled out, and this possibility is of serious concern to us. Reactor system valves and other components have the greatest likelihood of failure. However, we are also concerned about the condition of the 52 instrument tubes which penetrate the bottom of the reactor pressure vessel and constitute a part of the reactor coolant system boundary. These tubes were submerged in the highly contaminated and possibly corrosive water in the reactor building basement for approximately three years. Corrosion and subsequent leakage through any of those tubes would be unisolable. If the leakage rate from failures in the reactor coolant system boundary were high enough, use of the safety systems and equipment would be required. Much of this equipment has not been used since before the accident or previously subjected to contaminated water. If an incident of this type occurs prior to completing defueling of the core, the cleanup would be setback and become even more difficult than presently anticipated.

Experience has shown that delays in cleanup cause radioactive contamination to be more difficult to remove from surfaces and equipment. Radioactivity tends to "soak into" concrete surfaces, and rusting of metallic surfaces compounds the problem. For this reason, the cleanup will be more costly in terms of worker radiation exposure as further delays result.

The mechanical deterioration of components and systems over time may reduce the plant's ability to respond to natural phenomena (e.g., tornados), and other adverse events (e.g., fire) thereby posing potential threat to continued successful containment of TMI-2 contamination and stored waste. Although the likelihood of severe natural phenomena or a fire resulting in a radiation release to the environment is small, the possibility does exist, and the probability for such events occurring increases with time. Only the timely completion of all cleanup and radioactive waste disposal activities at the TMI-2 site will eliminate the associated risks to the workers and all possibility of inadvertent offsite radioactive releases.

The damaged fuel and other materials at the TMI site will remain radioactive for many hundreds of years. The threat remains until the facilities are decontaminated, the fuel is removed from the site and all radioactive wastes are disposed of safely.

In addition to the increased possibility of radioactive releases as the cleanup is further delayed, we are equally concerned about unnecessary radiation exposures to plant workers. The NRC will continue to assure that the licensee takes all steps necessary to ensure that radiation exposures to the workers are kept as low as reasonably achievable. However, as the cleanup is stretched over an unnecessarily long time due to lack of adequate finances, workers inevitably will be exposed to radiation and will accumulate increased exposures while performing maintenance activities. These activities by workers in radiation zones will be required to maintain the status quo, even though little or no progress is made toward cleanup.

It is simply imperative that the pace of the cleanup be conducted in an expeditious manner and that the financial problems which are hindering this pace be resolved as quickly as possible. In the interests of protecting the health and safety of the site workers and general public we would support any initiatives to expedite the cleanup.

The concern is more than a local one. The issue of expediting the cleanup and belatedly bringing the TMI-2 accident to a conclusion is of national importance and demands the attention of, and resolution by, the industry, the Administration, the Congress and government agencies. Anything less will perpetuate an intolerable situation at TMI, having significant impacts on the local population, the government, the industry and, most importantly, the nation.

This concludes my prepared testimony and I would be glad to answer any questions the Committee might have.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 11, 1982

The Honorable Alan Simpson, Chairman
Subcommittee on Nuclear Regulation
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

In accordance with your request, we are providing the Nuclear Regulatory Commission staff's responses to questions asked as a result of the Subcommittee on Nuclear Regulation's hearings on the Three Mile Island cleanup.

Sincerely,

Carlton Kammerer, Director
Office of Congressional Affairs

Enclosures:
As stated

cc: Senator Gary Hart

SENATOR SIMPSON

QUESTIONS AND ANSWERS

June 3, 1982

QUESTION 1. Is there any question in your mind, based upon the expert technical judgment of the NRC, that the TMI-2 reactor in its current condition poses a potential threat to public health and safety and the environment?

ANSWER.

The TMI-2 reactor in its current condition presents a potential threat to public health and safety and the environment because the facility is in a condition for which it was not designed. We believe, from the information available, that it does not impose an unacceptable risk to the public and the workers at this time. The existing risk is carried, to the largest extent, by workers who must maintain and decontaminate the plant. Present radiological conditions require workers entering the reactor building to dress in bulky protective clothing (including respirators) which increases the possibility of industrial accidents. If the cleanup is not accelerated there is the potential that conditions may deteriorate to the point where some future threat may be judged totally unacceptable by the NRC, as well as others. If this were to occur the NRC would, of course, take appropriate action.

QUESTION 2. In your testimony you mention the possibility of a substantial leak occurring in the reactor coolant system, caused by corrosion of significant parts, over a prolonged period, which could not be isolated.

a) What is the probability of such a leak occurring and could such a leak result in additional releases of radioactive material into the environment?

ANSWER

There is a relatively high probability of an unisolable leak in the reactor coolant system which might occur by several failure mechanisms. First, a leak may develop as a result of degradation or corrosion of piping or components in the reactor coolant system pressure boundary. We are especially concerned about the 52 in-core instrument tubes, penetrating the bottom of the reactor pressure vessel, which remained submerged in the reactor building sump water for approximately 3 years. The sump water chemistry was uncontrolled and the levels of chloride in the water ranged from 15 to 30 parts per million, well above levels considered adequate for proper chemistry control. Thus, the tubes are more susceptible to chloride stress corrosion and their condition is unknown. Further, the tubes are inaccessible due to very high radiation levels in the basement of the building and it is presently not possible to conduct a visual examination for evidence of corrosion.

Second, a leak may develop as a result of component failure from a lack of normal scheduled maintenance. An example of this type of failure occurred in September 1981 when a pressurizer sample valve started to leak at a rate approximately 10 times the normal RCS leak rate as a result of valve packing failure. Because the valve was in an inaccessible location, it was fortunate that it was possible to isolate the leak by recycling and backseating the valve. There is no assurance that cycling and backseating valves will stop packing leakage in future incidents, especially since many valves have not had any preventive maintenance in over 3 years due to their inaccessibility.

Regarding the potential for this kind of leakage resulting in additional releases of radioactive material to the environment, we believe that there is only a very small probability that releases will occur which could result in doses greater than the Commission's limits of 10 CFR Part 20. This belief is based on the filtration capability of the reactor building ventilation system and assumes the filtration system is functioning properly and leakage pathways from the building are minimal. Although the offsite consequences from a leakage incident are expected to be insignificant, the risks to onsite workers are substantial given the nature of the environment that would result from such leakage.

QUESTION 2. b) Could such a leak result in flooding of the reactor containment building with highly contaminated water and, if so, what additional cleanup steps would be required?

ANSWER

An unisolable leak could result in the flooding of the reactor building with highly contaminated water. Several hundred thousand gallons would be injected into the reactor pressure vessel during the injection phase of this type of incident to keep the vessel full of water. This water would leak to the building sump. If efforts were unsuccessful at slowing down or isolating the leak, the sump water would be recirculated back into the vessel. Recirculation would spread the contamination to a building adjacent to the reactor building and to piping and systems which, heretofore, have not been contaminated by the accident. These contaminated systems would ultimately require decontamination and would involve additional occupational exposure.

QUESTION 2. c) To what degree would such a leak contribute to additional complications and costs in the cleanup of the reactor?

ANSWER

A leak resulting in the reflooding of the reactor building with more contaminated water would severely complicate cleanup efforts by spreading contamination to new areas and systems within the plant, and causing additional occupational exposure risks to the TMI-2 work force cleaning it up. This type of incident could add significant amounts of transuranic contamination (i.e., uranium and plutonium) to the reactor building, requiring respiratory protection and stringent controls to minimize airborne contamination. The delay in cleanup would likely be many months. Current overhead costs alone at TMI-2 are approximately 3 million dollars a month.

QUESTIONS 4. In your statement you mention that, in your judgment, one cannot eliminate the possibility of reactor 2 reassuming criticality.

a) How does the probability of recriticality compare to the probability of the occurrence of another reactor accident of magnitude equal to or greater than that which occurred at TMI-Unit 2?

ANSWER

Because of the unknown condition and configuration of the TMI-2 core, we are not able to provide meaningful quantitative probability estimates for Unit 2 criticality and, therefore, cannot make any useful comparison with the probability of another TMI-2 type of accident. We can only say that, given the proper geometry and mass of enriched TMI-2 fuel assemblies, it is theoretically possible for the core to go critical even with the existing levels of boron (approximately 3700 ppm) in the reactor coolant. We do think the possibility of this event is small because the required geometric rearrangement of a significant number of the highest enriched fuel assemblies (the outer and, possibly, least damaged assemblies into an ideal (spherical) configuration is very unlikely.

QUESTION 4. (b) In your opinion could recriticality result in additional radioactive materials being released into the environment?

ANSWER

A recriticality would result in the release of some additional radioactive materials to the environment, however, we believe that the potential for offsite doses exceeding the Commission's limits in 10 CFR Part 20 is very small. This belief is based on the assumption that the containment building would maintain its integrity just as it did during and following the accident in 1979. We believe that releases resulting from leakage pathways would not result in significant doses. This does not minimize the importance of a criticality event because such an event could result in the generation of a fission product inventory larger than the existing inventory in the core. Further, the eventwould recontaminate the reactor building atmosphere with radioactive particulates, iodines and noble gases and recontaminate previously decontaminated floors and surfaces.

QUESTION 4. (c) To what degree would recriticality contribute to additional complications and costs in cleaning up the reactor?

ANSWER

The additional complications and costs to the cleanup effort, resulting from a recriticality, would be dependent on the severity of the event. A severe event might result in a higher leak rate or loss of integrity from the reactor coolant system and the need to process any contaminated water in the containment sump. At a minimum, the reactor building atmosphere would require decontamination as would exposed floors and surfaces. Finally the 90,000 gallons of reactor coolant, which are currently undergoing decontamination, would require cleanup. A criticality event would be a real setback to the cleanup effort. The licensee has already processed roughly 1.6 million gallons of contaminated water to date and immobilized many thousands of curies of activity over many months of effort. Generating many thousands of curies in an already damaged core would add many months to the cleanup. As stated previously, the overhead costs alone for the cleanup are roughly 3 million dollars per month.

QUESTION 4. d) To what degree does the probability of recriticality change with time?

ANSWER

The probability of experiencing a criticality event increases with time because of the increased chance of operator error, component failure, or some other initiating event. Although we believe that the probability of experiencing recriticality increases slowly with time it is impossible , at this time, to determine this quantitatively. At present, the core is in a stable, subcritical configuration with the reactor coolant borated to a level of approximately 3700 parts per million. Our primary goal is to have the licensee complete the defueling of the core, as expeditiously as possible. In the meanwhile, we have taken steps (e.g. required frequent monitoring of reactor coolant boron concentration) to mimimize the potential for a recriticality before the core is disassembled and removed.

QUESTION 5. In your opinion is GPU presently pursuing cleanup as agressively as possible considering the company's financial condition?

ANSWER

In our opinion GPU is attempting to carry out the cleanup in an expeditious manner, within the constraints of its limited financial resources. However, there is potential for improved efficiency in carrying out cleanup activities. Inefficiencies in the GPU operations are, in large part, due to the unique nature of the job and the fact that future planning is uncertain due to the lack of resolving the long term funding issues.

QUESTION 6. Is the NRC fully prepared to deal with another emergency at TMI Unit 2?

ANSWER.

The NRC is fully prepared to deal with another emergency at TMI Unit 2. The NRC maintains a comprehensive onsite group, which is backed up, via an up-to-date communications system, by personnel at Region I in King of Prussia, PA and the Emergency Response Center at NRC Headquarters in Bethesda, MD. NRC emergency response procedures, which have been developed, tested, and are in place, detail the NRC activities that would occur in response to an accident on the site.

QUESTION 7. If this legislation does not go forward what is the likelihood that the federal government will have to assume ever increasing, and perhaps even full, responsibility for the cleanup of TMI-2? If this is the case, what might the ultimate cost be to the federal government?

ANSWER

In November of 1980 the NRC staff published the enclosed document entitled "Potential Impact of Licensee Default on Cleanup of TMI-2," NUREG-0689 (November 1980). Appendix E to that study explores in detail the basic question: "if the utility licensed to possess and operate TMI-2 becomes financially unable to carry out its responsibility under the NRC license, what existing statutory authority at the Federal and State levels (Pennsylvania and New Jersey) is available to ensure that the public health and safety is protected?"

Our current view is that even if (1) the current legislation does not go forward, (2) ratepayer funding is not forthcoming because TMI-1 has not restarted and (3) GPU were to default, there are other parties who potentially could fund the cleanup without federal involvement. They are enumerated in Section 2.0 of NUREG-0689. One scenario is that another utility serves as a receiver for the GPU companies and assumes the cleanup responsibilities. The costs, if anyone other than GPU were to complete the cleanup, are speculative and it is reasonable to expect delays which would increase costs if only from inflation.

The likelihood of eventual federal involvement depends in part on the current situation and outlook of GPU financing. In addition to cleanup funding, GPU faces other financial problems which impact on its ability to direct funds into TMI-2 cleanup.

The Pennsylvania Public Utility Commission has ordered that a portion of customer revenues may be used for cleanup after TMI-1 is restarted. However, the only currently available source to continue with cleanup expenses beyond certain R&D funds already committed by DOE is proceeds from property insurance. GPU has informed the NRC staff that for the estimated $760 million in remaining cleanup costs, $66 million is the unused property insurance balance. At the current insurance use rate of $40 million per year, insurance proceeds would be exhausted in the fourth quarter of 1983. By current estimates the cost of remaining cleanup activities would be approximately $700 million when the insurance is exhausted, less some portion of the DOE R&D funds that may serve the actual cleanup. Any delays, which could well occur with a change in management of the cleanup could increase this cost.

External funding to meet general obligations and expenses of the GPU operating companies since the TMI-2 accident has come from a 45 member bank consortium. The consortium, starting from an initial authorization of short term credit of $412 million, has through subsequent agreements reduced lending authorization and has set the end of 1982 as the time that all loans under the agreement must be repaid.

The major obstacles facing GPU next year are a $35 million bond issue held by Jersey Central Power and Light Company, a GPU subsidiary operating in the State of New Jersey, which matures next March 31. More significant, a $50 million bond issue held by Metropolitan Edison Company, the most financially ailing GPU subsidiary, becomes due next April 1.

Other financial obstacles to be surmounted by the GPU companies next year include state tax payments to Pennsylvania and New Jersey of $112 million in the first quarter and significant increases in capital requirements for new construction and system repairs due to the past deferrals.

The long-term capital markets have been closed to GPU because of its poor financial condition but even if such funding were available, two GPU subsidiaries had 1981 earnings well below the legal limit for issuing new securities.

Without funds from another source, the banks have stated that they will be reluctant to renew their credit agreement with GPU when it expires at the end of 1982. With no access to any credit markets because of no progress in the financing of the cleanup it is uncertain how GPU will meet its needs for capital.

The NRC staff notes the joint testimony of Philip Kron, Vice President of Citibank N.A. and Robert Gillham, Vice President of Chemical Bank representing the agent banks of the 45 bank consortium, that "unless immediate and significant progress is made in solving GPU's financial problems, GPU will be creditworthy only through 1982." They added, "without the establishment in the near future of a financial framework covering the costs of cleanup, we fear bankruptcy is a distinct possibility."[1]

In short, the prospects for funding the cleanup of TMI-2, if such funding is to come from sources other than the utility's ratepayers, continue to be as hazy as when the NRC staff study was completed in November, 1980.

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[1] Testimony of Robert Gillham, Vice President, Chemical Bank and Philip Kron, Vice President, Citibank before the Subcommittee on Energy and the Environment Committee on Interior and Insular Affairs U.S. House of Representatives, April 27, 1982.

SENATOR HART

QUESTIONS AND ANSWERS

June 3, 1982

SENATOR GARY HART

Questions for the RECORD for the Nuclear Regulatory Commission TMI Hearing

- If GPU indicates an intention to halt the TMI-2 cleanup operation because of a lack of funds, what legal impediments, if any, would preclude the Commission from ordering GPU to proceed with the necessary next steps in the cleanup?

- Mr. Harold Denton testified that "Although we believe that the likelihood of an accident involving a release of significant amounts of radioactive materials currently contained at TMI-2 is small at present, the possibility will certainly increase as the cleanup is further delayed." Given that statement:

  a) Please quantify the word "significant" and compare the resultant radiation dose to the public and the workers on site, if such a release were to occur, with the dose limits in 10 CFR Parts 20 and 100.

  b) Please quantify, with an appropriate uncertainty band, the present likelihood of an accident involving a release of "significant" amounts of radioactive materials.

  c) Please quantify, with an appropriate uncertainty band, how much the possibility of an accident involving a release of significant amounts of radioactive materials will increase as a function of any delay in the cleanup.

  d) If any of these calculations were not performed before the testimony submitted to this Committee was written, please inform the Committee of the technical bases on which that testimony was founded.

QUESTION 1. If GPU indicates an intention to halt the TMI-2 cleanup operation because of lack of funds, what legal impediments, if any, would preclude the Commission from ordering GPU to proceed with the necessary next steps in the cleanup?

ANSWER.

We perceive no legal impediments to the issuance of a Commission order directing GPU to proceed expeditiously with the cleanup. Such an order would be within the authority of the Commission to take such actions with respect to the use of special nuclear material as it "may deem necessary or desirable . . . to protect public health or to minimize danger to life or property." Atomic Energy Act §§ 161(b), 161(i) and 103. This authority has been previously invoked with respect to the TMI-2 cleanup, for example in the order, issued by the Director of the Office of Nuclear Reactor Regulation, directing the licensee promptly to commence and complete processing of the contaminated water in the Reactor Building sump, reactor coolant system, and Auxiliary Building tanks. 46 Fed. Reg. 32716 (June 24, 1981). The same rationale could be invoked for ordering GPU to proceed expeditiously with the next steps in the cleanup. The Commission could make such an order immediately effective upon a finding that "the public health, safety, or interest so requires," with an opportunity for the licensee to request a hearing on whether, on the basis of the matters set forth in the order, the order should be sustained. (10 C.F.R. § 2.204).

Although the Commission has yet to be faced with a statement by GPU of an intention to halt the TMI-2 cleanup activities, as posited in Senator Hart's question, we do not believe that circumstance would impose any legal impediment upon the Commission's authority to direct GPU to proceed with the next steps in the cleanup. If GPU were to respond that it simply did not have the funds to continue with the cleanup, then the series of considerations outlined in NUREG-0689 "Potential Impact of Licensee Default on Cleanup of TMI-2" (November 1980) would come into play.

QUESTION 2. Mr. Harold Denton testified that "Although we believe that the likelihood of an accident involving a release of significant amounts of radioactive materials currently contained at TMI-2 is small at present, the possibility will certainly increase as the cleanup is further delayed." Given that statement:

a) Please quantify the word "significant" and compare the resultant radiation dose to the public and the workers on site, if such a release were to occur, with the dose limits in 10 CFR Parts 20 and 100.

ANSWER.

At TMI-2 the local population has associated a great deal of significance to any releases of radioactive materials, especially if the release is uncontrolled such as in an accident. Because of the unique situation at TMI, the NRC has given considerable weight to the concerns expressed by the local population. As the cleanup is delayed further, the probability of events occurring which could result in the accidental release of radioactive materials from TMI-2 rises. However, even in the absence of a quantifiable data base, we recognize that the probabilities of exceeding the Commission's limits stated in 10 CFR Part 20 or the plant technical specifications (values similar to those of Appendix I to 10 CFR Part 50) should remain very small for years.

Although small, the possibility of an accident resulting in releases exceeding 10 CFR Part 20 cannot be completely ruled out. One example of such an accident scenario involves the two reactor coolant demineralizers located in the TMI-2 auxiliary building. Both were in service for a short time period during the initial phases of the accident. Although we have no firm quantifiable data, we estimate that approximately 50,000 curies of radioactive cesium and strontium are contained in the resins. In addition, there are probably substantial amounts of transuranic isotopes also present in the resins. If these demineralizers were involved in a fire, radioactivity could be released which could result in calculated offsite doses to individuals which are well in excess of 10 CFR Part 20. Due to the limited information concerning actual conditions of these resins, we cannot upper bound the dose estimates. It is extremely unlikely, although not impossible, that occurrence of worse case scenarios could result in offsite doses to the general public in excess of 10 CFR Part 100.

QUESTION 2. b) Please quantify, with an appropriate uncertainty band, the present likelihood of an accident involving a release of "significant" amounts of radioactive materials.

ANSWER.

We believe that the near-term likelihood of an accident resulting in a significant release of radioactivity is small. Presently, however, it is impossible to quantify the probability of a fire or other events that could release significant amounts of radioactive materials inside the plant or to the environment. We cannot generate meaningful statistical predictions since we lack a sufficient data base. For example, although we observe very high radiation levels from the demineralizers, we do not know the chemical conditions, e.g., acid production or hydrogen generation rates inside the purification demineralizer vessels. Consequently, we cannot quantify the likelihood of an accident involving these components. Similarly, we cannot quantify other possible accidents involving highly contaminated areas in the auxiliary and reactor buildings. We do know, however, that cleanup efforts in these areas will reduce the likelihood of having any accidents and in addition will provide valuable information.

QUESTION 2. c) Please quantify, with an appropriate uncertainty band, how much the possibility of an accident involving a release of significant amounts of radioactive materials will increase as a function of any delay in the cleanup.

ANSWER.

The longer the large quantities of radioactive materials remain on Three Mile Island there is a correspondingly increased chance of an accident (e.g., human error). In addition the probability of an accident is most likely increased because equipment deterioration (e.g., degradation of valve packings or corrosion of components) can lead to system leakage. Without specific data on these parameters it is impossible to quantify the likelihood of future accidents.

QUESTION 2. d) If any of these calculations were not performed before the testimony submitted to this Committee was written, please inform the Committee of the technical bases on which that testimony was founded.

ANSWER.

Nuclear Regulatory Commission staff analyzed the potential environmental impacts associated with a wide spectrum of postulated accidents prior to the submission of testimony to the Committee. In NUREG-0683 (Final Programmatic Environmental Impact Statement related to the decontamination and disposal of radioactive wastes resulting from March 28, 1979, accident Three Mile Island Nuclear Station, Unit 2) published in March 1981, the NRC staff estimated the environmental impacts of different types of accidents including: ventilation system filter failure, spill of reactor coolant system liquid in the reactor building, leakage from the reactor building sump, failure of processed water storage tanks and fires involving radioactively contaminated material. Subsequent to publication of NUREG-0683 but prior to submission of NRC testimony, the NRC staff completed an evaluation of the potential environmental impacts associated with the accidental release of radioactivity contained on the purification demineralizers.

STATEMENT BY DR. THOMAS A. DILLON
PRINCIPAL DEPUTY ASSISTANT SECRETARY, OFFICE OF NUCLEAR ENERGY
BEFORE THE SENATE COMMITTEE ON ENVIRONMENT
May 20, 1982

Mr. Chairman and Members of the Committee: On behalf of Secretary Edwards and Assistant Secretary Shelby Brewer, I am pleased to respond to your invitation to the Department of Energy to appear before you regarding the Three Mile Island cleanup and specifically Senate Bill 1606, the Electric Utility Accident Cost Allocation Act. In my testimony today, I will cover three main subjects. I will first discuss the Department's position with respect to Senate Bill 1606. Secondly, I will reiterate for the benefit of the Committee the basic policy of the Administration with regard to the cleanup of Three Mile Island and the appropriate Federal role in the cleanup. And, finally, I will briefly summarize recent progress that has been made in the cleanup with particular reference to the disposal of radioactive wastes and the substantial progress that has occurred since we testified before a joint session of this Committee and the Senate Energy Committee last October 20.

The Department of Energy supports Senate Bill 1606, as amended by the Senate Energy Committee, the objective of which is to assure an early completion of the cleanup of TMI Unit 2. Several of the features in the initial bill which we commented on last October 20 as being of concern have been eliminated from the current version. The bill is now limited to establishment of a fund for the utility share of TMI cleanup costs, which fund would be contributed to by the various U.S. utilities owning nuclear electric generating stations. The Federal Government's role in this program would be limited to one of assuring that the funds contributed are appropriately dispersed to legitimate cleanup activities.

This role is assigned by the proposed legislation to the Secretary of Energy, and, if the bill is enacted into law, we believe that the Department can carry out this activity effectively.

Now let me spend a moment to reiterate the Administration's overall policy with respect to the cleanup. As authorized by Congress, the Department is conducting a research and development program at TMI to assure that the data obtained during the cleanup is applied to the benefit of the entire nuclear community. In addition, because of the Department's unique experience in handling radioactive wastes, the Department has agreed to and has signed a Memorandum of Understanding with the Nuclear Regulatory Commission (NRC) to assist in the removal of all abnormal wastes from Three Mile Island. To the extent that the disposal of this waste is not part of our R&D program, we will be reimbursed by the owners for the costs associated with this waste activity. A copy of the latest revision to this Memorandum of Understanding is being provided for the record. The President has committed a total of $123M to this DOE R&D program and through this current fiscal year approximately $42M has been and is being spent.

The Department endorses the financing plan put forth by Governor Thornburgh which calls for sharing the cleanup costs among affected parties. In that regard, the General Accounting Office has reviewed in detail our R&D program and concluded that about one half of our $123M expected expenditures is expected to offset owner cleanup costs. Although that is not the full amount mentioned in the Thornburgh plan as the Federal share, we believe that it meets the spirit of the Thornburgh plan and, as noted previously by Governor Thornburgh, his plan is not intended to be an exact formula but rather a framework for sharing the costs. In that regard, we are pleased with the progress made so far in the Senate in sponsoring the necessary legislation that will enable the utility contribution to be put forth at an early date.

In your letter of invitation, Mr. Chairman, you also asked the Department's views on several concepts not now encompassed by the proposed legislation. Specifically, you asked whether the legislation should prohibit pass-through of utility contributions to the Three Mile Island cleanup to utility ratepayers, should require a financial contribution from U.S. reactor manufacturers, or should be dependent on the comparability of General Public Utilities service rates with others in the Nation. In our view, the method used to handle each utility's TMI contribution in the rate structure should be left up to each State Utility Commission and should not be specified in Federal legislation. Further, we do not believe it appropriate for Federal legislation to require financial contributions by nuclear reactor suppliers. We do not believe comparability of GPU service rates with others in the Nation is relevant, since local rates are usually a function of many historical factors including industrial growth patterns, population distribution, water power availability, indigenous fuel supplies, etc., all of which are beyond the ability of present day utilities to impact. I would like to reemphasize that the Department supports passage of S. 1606 which is consistent with Governor Thornburgh's formula for sharing the cost of cleanup.

As Secretary Edwards indicated in a recent letter to Subcommittee Chairman Simpson, the Department has recently signed an Agreement in Principle with the owners to acquire the damaged TMI core. A copy of the Agreement is being provided for the record. This Agreement is consistent with the Administration's TMI research and development policy and will not require an increase in our earlier estimate of DOE expenditures. In this regard, the costs of shipping and disposing of the damaged core that are not necessary for our research and development program will be reimbursed by the owners. We expect to negotiate a detailed contract for the core acquisition with the owners in the next 6-9 months.

With this latest Agreement, we believe the path has been cleared for the removal of all of the radioactive wastes from Three Mile Island. I would now like to summarize, as requested in your letter of invitation, the progress that has been made in recent months in conducting our research and development program and in disposing of the radioactive wastes.

Despite the limited amount of funds to conduct the cleanup, I believe that there has been major progress made in the 6 months since Secretary Edwards testified before this Committee on October 20, 1981. During the current year, funds being expended on TMI-2 include about $60M from GPU, about half of which is available to directly support the cleanup; $30M from DOE for safety R&D, of which about one half offsets cleanup costs; and about $2M from the Electric Power Research Institute (EPRI). Some of the major activities which have been conducted by the owners, DOE, and EPRI, working closely with the NRC, have been:

1) The owners have drained the contaminated basement of 600,000 gallons of contaminated water including about 300,000 curies of radioactive cesium and strontium.

2) All of the cesium and strontium in the basement water have been concentrated on about 80 cubic feet of zeolite sand enclosed in 10 stainless steel liners, each about the size of a large garbage can. Lessons learned from this R&D activity will pave the way for cleanup of any future nuclear plant contamination incidents. The technique for doing this was developed jointly by GPU and DOE laboratory experts. (The cans are known as Submerged Dimineralizer System Liners or SDS liners.)

3) The Department of Energy has demonstrated vitrification of a sample SDS liner (nonradioactive) and we expect to ship the first radioactive SDS liner from TMI to our Hanford, Washington, laboratory for a hot vitrification demonstration by this summer. The resultant glass log is extremely stable and suitable for long-term storage and disposal. Thus, a safe method will have been demonstrated for treating and disposing of radioactive fission products from such incidents.

4) The radioactive contamination from the cleanup of water in the TMI auxiliary building has been collected in 50 carbon steel cans containing organic resin known as "EPICOR" liners. The Department has already shipped one of these liners to Ohio and then to Idaho for research and development, and has developed new techniques to deal with potentially combustible gases that could be generated in these liners. Those techniques are expected to be of value to the entire nuclear industry and NRC as future shipments are made. We expect the remaining 49 EPICOR liners to be shipped to the Idaho National Engineering Laboratory for research during the next 9-12 months. Non-R&D costs associated with shipment and disposal will be borne by the owners.

5) Just last month the owners completed a containment decontamination experiment which was partially sponsored by the Department and which led to very substantial reductions in radioactivity levels in certain areas within the containment. For example, median gamma radiation levels at the 305 foot elevation were reduced from 200 mr/hr to 150 mr/hr ; beta radiation levels in the same areas were reduced by a factor of six; and surface contamination levels were reduced by a factor of sixteen. This has made working conditions within the containment significantly easier and less cumbersome. In the past, the recovery contractor has estimated that 100 hours of preparation are needed for each hour of work within containment. The reduction in radiation levels should lead to a significant reduction in this ratio; perhaps by as much as a factor of 10, and, thereby, lead to a major reduction in cost and time required to complete the TMI-2 cleanup as compared to previous estimates.

6) A Technical Assistance and Advisory Group (TAAG) has been established as a follow-on to the prior Technical Assistance Group formed at the time of the accident. Under the joint sponsorship of DOE, GPU, and NRC, this group will provide expertise and new insight into safer and more efficient methods of conducting the defueling and cleanup. This group includes some of the most knowledgeable and experienced professionals in the world and has already come up with some ideas and suggestions that have led to major progress in the defueling.

7) Partly as a result of the TAAG efforts and the efforts of the DOE/EG&G R&D team to develop a specialized 1 1/4 inch underwater TV camera, we have obtained for the first time a TV tape of the fuel elements within the TMI-1 reactor core by inserting this camera through a 36 foot

long opening from the reactor vessel head. As a result of the excellent clarity in these pictures, the owner and DOE are arranging for the first examination of the damaged TMI-2 core this July. I expect that this examination will provide vital information to accelerate the cleanup, defueling, and acquisition of generic safety data of value to the entire nuclear community.

And, finally, I would like to spend a few minutes on future plans. I am personally very optimistic that our rate of progress will increase in the coming months and years. The core examination this summer will be very important in that regard. Progress to date has been less difficult than originally anticipated. Up until last year, the owners' schedule for conducting the first examination of the damaged core was sometime in 1983; they now expect to do this in July of this year. With concentrated management, effective cost control, continued cooperation among the various participants, and timely availability of funds, the cleanup job can be completed within the $760M estimate. We will continue to search for ways to improve the schedule and reduce the cost.

That completes my testimony. We would be glad to answer questions at this time.

Department of Energy
Washington, D.C. 20585

June 16, 1982

Honorable Alan K. Simpson
United States Senate
Washington, D.C. 20510

Dear Senator Simpson:

Enclosed are responses to questions you submitted following the May 20, 1982, hearing before the Senate Committee on Environment and Public Works. Deputy Assistant Secretary Thomas Dillon was the Department of Energy witness concerning S. 1606, Three Mile Island Clean Up.

If you have any questions, please call Diana Diamond or Tom Pretorius of my staff on 252-4277. They will be happy to assist you.

Sincerely,

Thomas H. Pretorius
for Robert G. Rabben
Assistant General Counsel
for Legislation

Enclosure

QUESTIONS SUBMITTED BY SENATOR HART

Three Mile Island

Q.1. A GAO report has concluded that the so-called TMI cleanup R&D program conducted by DOE will include about $60 million worth of activities that would have had to be done anyway by GPU, even without the Federal R&D program. Why should not the Federal Government require reimbursement from GPU for at least this amount?

A.1. The entire DOE R&D program is devoted to research and development activities that have potential generic value to the safe operations of nuclear powerplants throughout the world. Because of the importance of nuclear safety to continued viability of nuclear power as a reliable energy source of the future, the Congress has funded this R&D program on a self-supporting basis. Similar complementary TMI related R&D is also being funded by the electric utility industry through the Electric Power Research Institute. The fact that these R&D activities partially offset some of the owners cleanup costs, as pointed out by GAO, does not in any way argue against the propriety of continued Federal funding of such a valuable research program. Therefore, reimbursement by GPU for the "offset" portion should not be required.

Q.2. You have testified that the nuclear reactor manufacturers and vendors should not have to contribute to the cleanup of TMI-2. Given the fact that the Federal Government has provided perhaps as much as $40 billion to the nuclear industry over the past twenty years, I find this statement rather amazing. After all, don't the manufacturers and vendors have as much at stake in the TMI cleanup as anybody? If we are going to help preserve their market with Federal legislation, why shouldn't they also have to contribute?

A.2. While it is true that expeditious cleanup of TMI-2 is important to the future of nuclear power, and hence to reactor vendors, we do not believe it appropriate for the Federal Government to mandate a cleanup contribution from these firms, or any other "non-regulated" private firms. We certainly believe voluntary contributions would be in order, and we understand some are being considered. Many of the Nation's regulated utilities which operate nuclear plants are also considering voluntary contributions, and in fact have pledged to do so through the Edison Electric Institute. The basic purposes of Federal legislation, in this case, is to assure that the contributions are fairly distributed among the utilities, so that no one utility, or state regulatory commission, contributes more than a small and equitable share.

QUESTIONS SUBMITTED BY SENATOR SIMPSON

Three Mile Island

Q.5. The most critical step of the cleanup will be examination and removal of the reactor core. Based upon your current program for research and development, when are you expecting removal of the core to take place and are your plans fully coordinated and compatible with the GPU cleanup program? Has GPU indicated that there might be some delay in the projected date for core removal and, if so, how will this affect your program?

A.5. The actual schedule for core removal is uncertain. Assuming funding continues at present rates, and assuming effective management of resources, fuel removal could begin as early as late 1983 and could be completed as early as late 1984. It also could be completed as much as two years later, or 1986. DOE's program plans must remain flexible so that our R&D program is compatible with the entire range of schedules. This is indeed how we are planning and executing our program...continuous readjustment of planned reimbursable tasks have been made, and we expect will be made, throughout the term of the cleanup.

Q.6. The TMI-2 cleanup, as the Administration indicated last October, entails a number of useful research and development activities of broad national benefit. Is there information useful to our further understanding of the safety aspects of nuclear energy obtainable from further research at TMI-2 that is not currently included in the DOE research program? If so, what type of information could be obtained and at what cost?

A.6. In our judgement, the amount of truly relevant safety information to be secured from a TMI data acquisition program cannot be significantly increased by greater expansion of our research program. We note that a significant portion of relevant safety information, for example that pertaining to failed mechanical components, is being funded and managed by the Electric Power Research Institute. Their current projection of research funding on TMI activities for the next several years is on the order of $17 million annually.

Q.7. Do you agree with the NRC's conclusions regarding the health and safety implications associated with not pursuing an early cleanup of TMI-2? Do you have any additional concerns regarding health and safety not addressed in the NRC testimony?

A.7. We do agree with the basic thrust of NRC's argument that the "potential" for releases of radioactivity is present as long as the damaged core and radioactive waste packages remain at Three Mile Island. We believe the seriousness of the situation is somewhat overstated by NRC in terms of health and safety impact of minor releases. Because of present NRC and GPU policy, minor occurrences at TMI which are insignificant in terms of health and safety, are announced to the public in a manner which gives these incidents an importance and relevance which is frequently unwarranted. Nevertheless, we do agree that the sooner the waste packages and damaged core are removed from TMI, the sooner will these minor occurrences which tend to alarm the local community, be prevented from occurring.

Q.8. If this legislation does not go forward, what is the likelihood that the Federal Government will have to assume ever increasing, and perhaps even full, responsibility for the cleanup of TMI-2? If this is the case, what might the ultimate cost by to the Federal Government?

A.8. If Senate Bill 1606 is defeated, then some other means of providing adequate revenues to replace the depleted insurance funds will have to be found. Hopefully, TMI-1 will be restarted and existing revenues will be freed up for use in the cleanup. Perhaps some means of increasing the utility contribution now being made through the EPRI R&D program can be devised. In any case, we do not believe the Federal Government should provide any additional revenues beyond the TMI R&D program already planned at a level of $123 million. If this Bill does not pass, and no additional sources of revenue are found, then the cleanup will be delayed until such time as added revenues are found. In the meantime, adequate resources are available within the envelope of present revenues, to assure continued health and safety of the public. Thus we believe it very unlikely that the Federal Government will ever assume full responsibility for the cleanup.

Q.1. Your testimony indicates that the recently completed containment decontamination experiment should lead to a "major reduction in cost and time required to complete the TMI-2 cleanup." Specifically, how much do you expect cleanup cost and time to be reduced?

A.1. A quantitative estimate of cost reduction cannot be made, partly because the decontamination is still ongoing, and partly because the steps to complete cleanup are so uncertain and will remain so until further information is obtained on the extent of damage to the core and other plant components, and the extent of fuel distribution in the primary coolant system.

Q.2. If one were to assume a badly damaged core, access to which proves to be difficult, what is your best estimate of cleanup costs?

A.2. The Department has not made an estimate of total cleanup costs. Our program is restricted to the core and radioactive wastes. The cleanup involves much more than these two items. GPU is in the process of reestimating cleanup costs; we suggest you contact them for a total cleanup cost estimate.

Q.3. You note that you expect the rate of progress of DOE's research and development activities to increase in the coming months and years. Does this assessment assume full availability of funding under the Thornburgh proposal and, if so, what impact will a delay in that funding have on your program?

A.3. This assessment assumes that GPU funding will continue at or above present levels even after their insurance runs out in 1983. To make up for the insurance shortfall, a significant additional portion of the Thornburgh proposal will have to be put in place. If no additional funds are made available in 1983 to replace the insurance monies, the cleanup will come to a halt and DOE's core access and examination program will have to be postponed.

Q.4. Do you agree with GAO's conclusion that "additional funding cutbacks by GPU could affect the effective use of DOE funds in 1983 and beyond?"

A.4. Yes. As indicated in answer to Question 3, a cutback of funding below present rates would adversely effect DOE programs in 1983 and beyond.

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C.

FOR RELEASE ON DELIVERY
EXPECTED AT 9:30 A.M.
MAY 20, 1982

STATEMENT OF
F. KEVIN BOLAND
SENIOR ASSOCIATE DIRECTOR
ENERGY AND MINERALS DIVISION
BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
U.S. SENATE

Mr. Chairman, we appreciate the opportunity to offer our views on S. 1606 and to discuss the status of the cleanup effort at The Three Mile Island (TMI) nuclear generating station, the financial condition of the General Public Utilities (GPU) System, and ratepayer costs under various funding options.

The basis for my comments today stem from three reports 1/ and follow-up work we have completed over the last 2 years concerning the serious financial and operational concerns presented by the TMI accident.

We believe the initial steps taken by the Federal Government, the State of Pennslyvania, and the electric utility industry were positive signs of a willingness by the concerned parties to move forward at TMI.

Some progress has been made towards cleaning up TMI-2, but funding constraints have slowed the pace for 1982 and this will probably continue to be the case unless additional funding is made

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1/"Three Mile Island: The Financial Fallout" (EMD-80-89, July 7, 1980); "Greater Commitment Needed to Solve Continuing Problems at Three Mile Island," (EMD-81-106, Aug. 26, 1981); "Impact of Federal R&D Funding on Three Mile Island Cleanup Costs" (EMD-82-28, Jan. 15, 1982).

available to GPU.

Before commenting on S. 1606, I would first like to respond to the several issues you asked us to address.

CURRENT FINANCIAL CONDITION OF THE GPU SYSTEM

At the end of 1981, the GPU System was in about the same financial posture as it was at the beginning of the year. However, the January 1982 Pennsylvania Public Utility Comission (PaPUC) rate order for the Pennsylvania Electric Co. (Penelec) and the Metropolitan Edison Co. (Met Ed) will significantly improve the cash flow position of the two companies. If the New Jersey Board of Public Utilities (NJBPU), approves the rate filing for increased revenues by Jersey Central Power and Light Co. (JCP&L), which is currently pending, its financial situation would be similarily improved.

Financial status at December 31, 1981

The GPU System ended 1981 at essentially the same net income level (before extraordinary gains and losses) as 1980 -- $20.5 million. Accounting adjustments for extraordinary gains and losses, however, resulted in a net loss for the System of nearly $16 million. Prior to these accounting adjustments, Met Ed suffered the worst earnings record of the three companies, with a net loss of nearly $13.5 million for the year--about $3.5 million more than it lost in 1980. Penelec's net income was nearly $30 million, a 25-percent increase over 1980 income. JCP&L's net income remained essentially the same at about $22 million.

Except for Penelec, the GPU companies ended 1981 in an unfavorable solvency position. As the following schedule shows, only Penelec had a favorable ratio of current assets to current liabilities at year's end.

	Current assets	Current liabilities	Current ratio
	(000 omitted)		
Penelec	$141,981	$107,297	1.32
Met Ed	81,806	100,967	0.81
JCP&L	160,094	193,404	0.83

While this is only one of a number of financial ratios that could be computed in analyzing the GPU companies, it is indicative of the GPU System's financial situation based on our analysis of its 1981 financial statements. Penelec was in a relatively sound financial condition but restricted in its ability to use its resources to help out its sister companies by the conditions imposed on it as a member of a utility holding company. Met Ed's situation was precarious, following 2 years of net losses, and JCP&L was just keeping up with its cash needs.

Since late 1979, the only source of external financing for the System has been the Revolving Credit Agreement (RCA) loans from the 45-member banking consortium. The original loan agreement expired in late 1981, but based on some encouraging rate actions by the PaPUC and NJBPU, the banks extended the RCA until December 1982. The credit line was reduced from $412 million to $200 million, however, and the borrowing limits for each individual company were revised. The new agreement also requires that the GPU parent corporation and the subsidiary companies reduce their borrowings to zero by the end of 1982. As of December 31, 1981, the GPU System had $60 million in outstanding short-term debt under the RCA in addition to $49 million in term loan bonds due by the end of 1982.

Financial condition as of March 31, 1982

Step 1 of the 3-step PaPUC settlement order increased Met Ed's base rates by $72 million and Penelec's base rates by $49 million for a total retail rate increase of $121 million. The increases provide for the accelerated amortization of the companies' investment in TMI-2. These revenues are not immediately offset by related current expenses as is the case with increased revenue receipts related to higher energy costs. At this time, there is also no claim on these funds by the trustees for the bondholders that provided the capital to build TMI-2. Therefore, GPU has unrestricted use of these funds for whatever purpose it deems most important.

The companies' revenue collections were to have been reduced by $103 million as a result of (1) expected savings in energy replacement costs when TMI-1 was restarted in April 1982 and (2) the expiration of the deferred energy surcharge collections in June 1982. The TMI-1 restart problems now make it highly unlikely that replacement energy savings will become a reality until well into 1983. The expiration of the deferred energy surcharge, however, will serve to reduce revenue requirements by about $25 million beginning in July 1982, which, on an annualized basis, gives the companies a net revenue increase of $96 million. Since the companies agreed not to file another base rate case until January 1983, and any subsequent rate changes agreed to would not be effective until September 1983, the $96-million increase in revenues will continue through most of 1983 and would be affected only by the restart of TMI-1 prior to September 1983.

Factors affecting continued financial solvency

A favorable decision by the NJBPU on JCP&L's current rate filing, coupled with the favorable PaPUC decision, would leave all the GPU companies in a relatively solvent financial position, at least for the next year or two. The companies are well below their RCA borrowing limits, and this provides them the needed short-term borrowing cushion to meet their State tax obligations and other short-term funding requirements.

Penelec, with short-term investments in excess of $40 million, has no need of external borrowings. Met Ed's short-term borrowings went up to $25 million in April 1982, when its State taxes came due. The increased revenue collections, however, will allow it to repay the outstanding RCA debt by September and begin to accumulate a reserve to meet its $50-million, long-term debt retirement plus its State tax payment--both due in early 1983. These financial commitments, however, will still require about $25 to $30 million in short-term borrowings to supplement the funds internally generated.

JCP&L's financial status is unclear at this time, pending the final NJBPU decisions on the energy adjustment clause provision of $97 million and the base rate filing for a $214 million increase. JCP&L is faced with several major financial hurdles over the next 18 to 24 months. JCP&L's wholly owned Oyster Creek nuclear powerplant was unexpectedly shut down from December 1981 to April 1982. Replacement energy for the loss of Oyster Creek costs the company $12 to $15 million per month. If this cost is not allowed in the energy clause provision, JCP&L must pay these costs with internal funds or short-term loans. JCP&L is also budgeting $65 million for Oyster Creek capital costs in 1982 and an additional $108 million in capital costs for 1983. The company has about $35 million in maturing bonds coming due in early 1983 plus $130 million in State tax payments due in May, August, and November of 1982. JCP&L is currently exploring the potential for refinancing the maturing bond issue. If this is not possible, all of the company's cash needs will have to be met from internal funds or short-term borrowings. Because this could require the short term debt level to peak at over $100 million, a new credit agreement would have to be negotiated with the RCA banks. A favorable NJBPU rate order in May would materially affect the company's financial future and borrowing needs.

The GPU Corporation's outstanding debt as of April 15, 1982, stands at about $65 million and of all System indebtedness, is the least likely to be repaid on time. The debt can only be repaid as the three companies pay dividends into the Corporation. In October 1981, it was envisioned that the restart of TMI-1 in early 1982 would allow Penelec and JCP&L to pay dividends to the parent corporation which could then reduce its outstanding debt to about $5 million. Since JCP&L will not be able to pay any dividends before late 1983, the Corporation will end 1982 with an outstanding RCA debt balance of about $46 million. This will require negotiating a new credit agreement with the banks for 1983 because the present agreement requires that the outstanding debt be liquidated by December 31, 1982.

POSSIBILITY OF A GPU BANKRUPTCY

The potential for a GPU bankruptcy at this time appears to be unlikely. It cannot be totally discounted, however, given the interrelated financial ties that bind the GPU System and the System's current narrow margin of financial solvency.

In our August 21, 1981, report, 1/ we identified several studies that have been made of the effects that a bankruptcy action might have on the parties involved. We examined the studies and discussed possible issues and consequences with a range of knowledgeable people. Our general conclusion was, and still is, that too many uncertainties exist in a utility bankruptcy to make it a viable option to resolve the System's financial difficulties.

In our report, we pointed out the difficulty in assessing the consequences of a bankruptcy and cited several reasons for this. We did point out, however, that there is a reasonable certainty that a bankruptcy would be a long and protracted proceeding, that it could have a disrupting influence on customer service, and that costs to ratepayers would likely be increased. Furthermore, we pointed out that a bankruptcy would not solve the problems that might initially have led to the System's financial distress. TMI-2 would still have to be cleaned up in accordance with Nuclear Regulatory Commission requirements, replacement power would still have to be purchased, and other System costs incurred to continue supplying electric power to customers.

1/"Greater Commitment Needed to Solve Continuing Problems at Three Mile Island" (EMD-81-106).

A GPU bankruptcy would probably affect the cost of capital for all utility companies. A study issued by L.F. Rothschild, Unterberg, Towbin of New York on April 8, 1981, estimated that TMI has already added about $170 million annually to the cost of utility debt financing and that a GPU bankruptcy could increase this risk premium to about $400 million annually.

PROGRESS OF TMI-2 CLEANUP ACTIVITIES

The TMI-2 cleanup cost and completion schedule has slipped steadily since the initial estimate was developed in mid-1979. The expected completion cleanup date, for example, has slipped from 1982 to 1987. Given the current problems with obtaining adequate cleanup funds, final completion is likely to slip beyond that date. Costs have escalated from $133 million (1981 dollars) to over $1 billion, adjusted for inflation.

Cleanup accomplishments to date

The major cleanup activity to date has revolved around decontaminating the auxiliary building and treating the contaminated waste water resulting from the accident. This was the first of three planned stages of activity and it has been largely accomplished. The auxiliary building decontamination is about 85 percent complete, and the approximately 275,000 gallons of radioactive water in the auxiliary building have been processed through the EPICOR II filtering system. Another 600,000 gallons of high-level radioactive water in the containment building have bee[illegible]essed through the Submerged Demineralizer System (SDS), leaving about 5 to 6 inches of water remaining to be pumped out. The radioactive material from the contaminated water has been captured on special filtering material and stored in containers at TMI. These will be taken by the Department of Energy (DOE) to an off-site location for storage and/or R&D purposes between now and the end of the year. Processing the 100,000 gallons of radioactive water in the reactor primary coolant system is also expected to start later this year.

Stage two of the cleanup involves removing the damaged fuel core, and stage three covers the decontamination of the entire interior of the containment building. Preliminary work on gaining access to the reactor core has started, but funding constraints are limiting the pace of activities. The decontamination experiments planned for December 1981 were finally completed in March 1982. This project was jointly funded by DOE and GPU and was intended to develop a practical methodology for more efficiently reducing radiation levels in the containment building than using manual labor and chemical detergents. Results were not as good as expected, but radiation levels in the areas sprayed with the pressurized hot water dropped from 300 millirems to about 100 millirems. Further decontamination work is now the responsibility of GPU.

In mid-1981, GPU proposed a $759-million cleanup budget for 1982-87 that included $117 million for cleanup activities in 1982. In late 1981, this 1982 budget, and the accompanying scope of work, was reduced to $66 million when it became apparent that little or no outside financial assistance would be available. The $66 million was expected to come from internal sources ($26 million) and insurance proceeds ($40 million) and be supplemented with another $8 to $12 million from DOE funding for R&D activities related to the proposed work tasks.

GPU planned that about $33 million of the budget would be used for activities required to keep the plant in a safe condition. The remaining $33 million would be used to fund direct cleanup costs. When problems developed in restarting TMI-1, it became apparent that ratepayers' contributions to cleanup costs would not be forthcoming since they were tied to the restart by the PaPUC rate order of January 1982. GPU officials also saw little progress being made in implementing the utility industry's agreement to provide $32 million annually to the cleanup fund. As a result, GPU decided to reduce the drawdown of insurance proceeds by $6 million, which directly affected the cleanup activities previously scheduled for 1982. If arrangements to provide outside financing for cleanup activities become stalemated, GPU officials would probably continue to scale back the TMI-2 activities, to maintaining the unit in a safe condition with minimal cleanup at about a $40-million-per-year level. GPU expects that about $20 million of that amount will qualify as insurance-related costs. At that level of insurance expenditures, GPU can continue maintaining the unit through 1984. Given the present GPU limitations on access to external financial resources and the heavy financial commitments facing the companies between 1982 and 1985, we see little opportunity for GPU to divert any more of its resources to TMI-2 than it already is doing.

Use of Federal R&D funds may be affected if cleanup is curtailed

Some financial support for cleanup tasks could come from Federal R&D funds, but their use is largely contingent on GPU's being able to undertake and partially fund the work tasks that lend themselves to R&D activities. The Administration committed itself to a $123-million, multi-year R&D effort at TMI-2 in October 1981. About $48 million was designated for data acquisition efforts with an additional $75 million for R&D programs. In our January 15, 1982, report on the impact of Federal R&D funding at TMI, we estimated that if the proposed cleanup effort proceeded as planned, about $51 to $54 million of R&D funds would replace money that GPU would have to spend to accomplish the same end-results. An additional $15-million reduction in the total budget has already been achieved because of DOE's research efforts related to removing the radioactive water from the containment building.

GPU's 1982 budget reductions have not yet significantly curtailed DOE's R&D activities because most of the $30.75 million DOE budget is for waste removal and immobilization activities and for preliminary engineering work related to subsequent core access work tasks. In addition, some work tasks rescheduled by GPU that have R&D implications are being replaced with tasks that were scheduled to be done later and are not time critical. Additional funding cutbacks by GPU, however, could affect the effective use of DOE funds in 1983 and beyond. DOE has already reduced its proposed 1983 budget request from $33 million to $27 million in anticipation of a continued slowdown of cleanup activity.

GAO COMMENTS ON S. 1606

The proposed amendment to S. 1606 provides a mechanism by which the electric utility industry can implement its commitment to share in the TMI-2 cleanup costs. This cost-sharing concept, which would include participation by the Federal government, Pennsylvania and New Jersey State governments, GPU and its ratepayers, and the electric utility industry, is one that we have supported in past reports and testimony.

The amendment limits the sharing of the industry contribution to those utilities with nuclear powerplant operating licenses. This is a substantive change from some of the previous considerations that would have assessed most electric utilities a share of the cost. While there are reasonable arguments on both sides of the issue, the answer is largely judgemental and, in our opinion, best left to the discretion of the Congress.

ALTERNATIVES TO INDUSTRY CONTRIBUTIONS

If the utility industry cannot keep its commitment to provide $192 million for cleanup costs, there are few viable alternative funding sources. As we pointed out earlier, there is relatively little more of the shareholder's fund that can be re-directed to the cleanup without endangering the financial solvency of the System or future supplies of reliable electric power as maintenance costs are reduced below some marginal levels. External financing is not available, either through short-term borrowings or long-term debt instruments. The banks have made it clear they will not finance the cleanup costs, and the companies are not an attractive investment for long-term bond holders, even if they met the basic financing requirements such as interest coverage.

This leaves three remaining sources of funds--Federal loans or grants, increased Pennsylvania and New Jersey State contributions, and increased revenues from ratepayers. Although there have been expressions of concern over the TMI-2 problem by certain congressional members, and a feeling that TMI-2 is a national problem that should receive Federal support, we find no groundswell of support for anything beyond the present R&D program level. The Governor's of Pennsylvania and New Jersey have accepted the responsibility for providing $45 million towards the cleanup over a 6-year period, but thus far, no action has been taken by the State legislative bodies to formally commit these funds. Any funding from tax dollars beyond this commitment does not appear likely at this time.

This leaves the third possible source as the only reasonably viable alternative. Traditional utility ratemaking practices have generally assessed the utilities' customers for the costs incurred to provide electric power on demand as well as giving them the benefit of any cost reductions due to efficient operations. Until January 1982, however, the PaPUC and the NJBPU refused GPU requests to allow rate increases that passed part of the cleanup costs on to its customers. In its January 1982 rate orders for Met Ed and Penelec, the PaPUC allowed some of the potential cost savings expected to result from the TMI-1 restart to be retained by the companies and used to fund cleanup costs. The

NJBPU is expected to rule in a similar manner for JCP&L, although that decision has not yet been made.

The Met Ed and Penelec rate filing requests were structured so that a large initial revenue increase to reflect the amortization of the TMI-2 investment would be collected starting in mid-January 1982. These revenue increases were to be offset later in the year by replacement energy cost savings from the TMI-1 restart and by the termination of the deferred energy surcharge in June 1982. It was anticipated that Met Ed ratepayers would be paying the same retail rate per kilowatt hour (kWh) on December 31, 1982 as they were paying on January 1, 1982. Penelec retail customer rates were only expected to increase by 0.1 cent per kWh over the 12-month period. The failure to restart TMI-1 in April as scheduled, however, negated the potential replacement energy savings and resulted in Met Ed's retail rates increasing by $53 million, or 0.9 cents per kWh and Penelec's retail rates increasing by $42.6 million, or 0.52 cents per kWh. On an annualized basis, therefore, Met Ed's residential customers using 500 kWh per month are currently paying 8.6 cents per kWh--a 12 percent increase over the previous rate. Penelec's customers in the same class are now paying 7.63 cents per kWh for an 8 percent increase in rates. The following table shows how these current rates compare with other utility companies in the same area.

Philadelphia Electric Co. - 10.46¢ a/
Met Ed - 8.62¢
Duquense Power & Light Co. - 8.61¢
Pennsylvania Power Co. - 8.56¢ a/
Penelec - 7.63¢
Pennsylvania Power & Light Co. - 6.87¢
West Penn Power Co. - 5.29¢

a/Assumes pending rate increases are granted in full.

If all of JCP&L's retail rate filing request is approved by the NJBPU under terms similar to those approved by the PaPUC, the company's residential customer using 500 kWh per month would pay 12.44 cents per kWh on an annualized basis. This represents a 29 percent increase over the current rate of 9.61 cents. The comparison with other utility company rates is shown below.

Consolidated Edison Co.	-	13.50¢
Atlantic Electric Co.	-	12.73¢ a/
JCP&L	-	12.44¢
Long Island Lighting Co.	-	12.27¢ a/
Rockland Electric Co.	-	10.78¢
Pub. Service Elec. & Gas Co.	-	10.62¢
Philadelphia Electric Co.	-	10.46¢ a/

a/Assumes pending rate increase is granted in full.

The electric utility industry has made a commitment to provide $32 million per year for 6 years to the cleanup, and S. 1606 is designed to help the industry implement that commitment. As we pointed out earlier, if the industry cannot keep its commitment, the only viable recourse is to obtain it from System ratepayer revenues. If this increase were to be approved by the PaPUC and NJBPU, it would likely increase rates by the following amounts.

Company	Est. sales (1982) (Gwh)	S. 1606 cleanup share ($ million)	Additional cost per kWh (cents)
Met Ed	7,800	$15.67	0.20
Penelec	10,500	7.18	0.07
JCP&L	13,000	9.14	0.07

At the current rate levels, this additional cost would increase rates for Met Ed, Penelec, and JCP&L residential consumers using 500 kWh per month by 2.3, 0.9, and 0.6 percent, respectively.

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Mr. Chairman, this concludes my prepared statement. I will be happy to answer any additional questions you might have in this matter.

SENATOR GARY HART

Questions for RECORD for General Accounting Office
TMI Hearing

1. For each unanticipated shutdown of a nuclear powerplant, either due to NRC orders or following accidental events, and in which the shutdown resulted in repair or replacement power costs either of which exceeded $5 million, please provide the following information:

   a) What was the total cost of the repairs required to return the plant to full operation?

   b) What was the total cost of replacement power while the plant was not operating?

   c) In each instance, how much of these costs were passed on to the utility's customers? How much were paid out of company profits?

   d) How much of these costs, if any, were covered by insurance?

ANSWER: The requested response date did not allow sufficient audit time to respond to this question.

2. Please list the nuclear powerplants that have been cancelled after construction has commenced.

   For each powerplant:

   a) How much money had the applicant spent prior to abandonment?

   b) How much of these costs are being recovered through rates?

   c) How much of these costs are being absorbed by utility investors?

ANSWER: The requested response date did not allow sufficient audit time to respond to this question.

3. It has been suggested that all utilities have benefitted from the accident at TMI-2 because, as a result, the private insurance available for on-site damage was increased to $800 million per nuclear powerplant. Could the private insurers have provided this additional coverage had the accident not occurred? Would they have provided such additional coverage? Please explain.

ANSWER: The assumption must be made that since private insurers have now provided the additional coverage for on-site property damage, and they intend to increase it even more in the future, the same levels of coverage could have been made even without the accident. It is less certain that the carriers would have provided the same level of coverage without the pressure resulting from the TMI-2 accident. Insurance coverage levels were gradually increased prior to the accident, however, going from $64 million in 1967 to the $300 million available in January 1979. One could assume, therefore, that such increases would probably have continued although at a slower pace.

SENATOR GEORGE J. MITCHELL

Questions from Senator George J. Mitchell

1. How do the rates paid by the ratepayers in the GPU service area compare with the rates paid by other ratepayers in the Northeast region?

   (a) Prior to the accident?
   (b) At present?
   (c) If cleanup costs are paid by GPU ratepayers alone, without contributions paid for by ratepayers of other utilities?

ANSWER: The following schedule shows the rates applicable to customers of the GPU companies and neighboring utilities under the scenarios proposed in the question.

Utility	1978	1982	with cleanup costs (note a)
	(¢/kwh)		
Consolidated Edison Co. Of New York, Inc.	9.60	13.50	
Orange and Rockland Utilities, Inc.	8.10	10.78	
Public Service Electric and Gas Co.	6.60	10.62	
Long Island Lighting Co.	6.27	12.27	
Dusquesne Light Co.	5.92	8.61	
Jersey Central Power and Light Co.	5.54	12.44	12.73
Philadelphia Electric Co.	5.50	10.46	
Atlantic City Electric Co.	5.11	12.73	
Metropolitan Edison Co.	4.65	8.62	9.44
Pennsylvania Electric Co.	4.70	7.63	7.91
Pennsylvania Power Co.	4.56	8.56	
Pennsylvania Power and Light Co.	4.06	6.87	
West Penn Power Co.	3.99	5.29	

a/$130 million annual cleanup cost with no offsetting energy savings from restarting TMI-1.

2. What is the total figure for uninsured costs to utilities of accidents or financial difficulties which have been borne solely by those utilities' ratepayers? Please provide in each case the specific plant; total uninsured cost; rate increase; and time of occurrence.

ANSWER: The requested response date did not allow for sufficient audit time to respond to this question.

3. If GPU ratepayers paid the percentage of the cleanup bill provided in S. 1606, by how much would the typical monthly electricity bill in the GPU service area increase? By what percentage?

ANSWER: The electric utility industry has made a commitment to provide $32 million per year for 6 years to the cleanup, and S. 1606 is designed to help the industry implement that commitment. As we pointed out earlier, if the industry cannot keep its commitment, the only viable recourse is to obtain it from System ratepayer revenues. If this increase were to be approved by the PaPUC, and NJBPU, it would likely increase rates by the following amounts.

Company	Est. sales (1982) (Gwh)	S. 1606 cleanup share ($million)	Additional cost per Kwh (cents)
Met Ed	7,800	$15.67	0.20
Penelec	10,500	7.18	0.07
JCP&L	13,000	9.14	0.07

At the current rate levels, this additional cost would increase rates for Met Ed, Penelec, and JCP&L residential consumers using 500 KwH per month by 2.3, 0.9, and 0.6 percent, respectively.

4. If GPU ratepayers were to provide for the entire cleanup bill over a six year period, by how much would the typical monthly electricity bill in the GPU service area increase? By what percentage?

ANSWER: If we assume the annual cleanup funding requirements were $130 million for six years, the average monthly residential electric bill for 500 kilowatt hours of consumption would increase by the following amounts:

Companies	$ increase	% increase
Jersey Central Power & Light Co.	1.45	2
Metropolitan Edison Co.	4.10	10
Pennsylvania Electric Co.	1.40	4

5. What is the ability of the GPU companies to proceed with the TMI Unit 2 cleanup given its present financial situation?

ANSWER: The ability of GPU to proceed with any meaningful cleanup is presently limited to the basic preparations (with DOE R&D assistance) for gaining a "quick look" at the reactor core, processing the radioactive water in the reactor coolant system, and preparing the high level radioactive waste generated by the Submerged Demineralizer System for shipment to a DOE facility. About $60 million of GPU and insurance money is available during 1982 plus an additional $8-10 million of DOE funding. If no external funding (including rate payer contributions) is made available in 1983, cleanup activity will have to be scaled back even further to primarily a caretaker status of the contaminated unit. GPU does not have the necessary internal resources to maintain its system, meet its financial obligations, and put any additional money into cleanup without significant rate relief from the regulatory agencies in Pennsylvania and New Jersey.

SENATOR SIMPSON

Questions for RECORD for General Accounting Office
TMI Hearing

1. You have testified that final completion of the TMI-2 cleanup is likely to slip beyond 1987. How far do you expect the cleanup to slip and how will this affect the $760 million cleanup estimate?

ANSWER: The most critical factor in maintaining any cleanup schedule is the availability of sufficient money to complete work tasks in a timely manner. GPU currently has less than one-half the funds it projected would be needed in 1982 to meet the 1987 completion date and several key work tasks have been slipped to 1983. If needed funding levels are restored beginning in 1983, it is probable that the cleanup can be completed by 1988. If funding in 1983 is a repeat of 1982--and it could be even less--the expected cost escalations and the need for additional support costs beyond 1986 could extend the cleanup until 1990.

The effect of slippages on total cleanup costs is difficult to compute. We have estimated that the cleanup could be done for about $645 million if adequate funding were made available beginning in 1983, work tasks are scaled back as scheduled, and operational efficiencies continue. A one-year slippage in the cleanup effort from 1983 to 1984, however, would add about $75 million to the cost by 1988 under present proposed funding levels. The additional costs indicated above would occur as the completion date is extended beyond 1988 and the $760 million cleanup estimate could well be exceeded by the time the cleanup was completed.

2. If one were to assume a badly damaged core, access to which proves to be difficult, what is your best estimate of cleanup costs?

ANSWER: The current cost estimate already considers extensive damage to the core although it could be even worse than anticipated. A successful DOE effort to get a "quick-look" at the core this year could be instrumental in containing core access costs since the earlier the condition is known, the sooner appropriate techniques can be developed to handle the situation and delays will be minimized. Until this determination is made, it is probably reasonable to assume that even a badly damaged core can be extracted within the current GPU budget expectations of $760 million given the flexibility that we believe is currently contained in the GPU budget.

3. Your assessment of the decontamination experiments is decidedly more pessimistic than DOE's. Do you expect the results of this experiment to lead to a major reduction in cost and time required to complete the TMI-2 cleanup?

ANSWER: The final results of the decontamination experiments were not available to us but preliminary indications are that the experiments did little more than confirm that decontamination procedures initially considered by GPU in its cleanup plan were indeed feasible. Consequently, it does not appear at this time that the proposed $56 million for gross and manual decontamination of the containment building will be reduced. Furthermore, GPU officials told us that they expect their current re-evaluation of the cleanup will result in an even higher budget for completing the decontamination process than was initially estimated.

4. In your testimony, you discuss some of the options available to GPU if this legislation does not go forward. Is it feasible, in your judgement, to include a mechanism in this bill to force rates in the GPU service area up to levels comparable to surrounding areas? How would such a determination be made and how much would be generated if the rates were so increased?

ANSWER: We believe it would be difficult to legislatively force rates in the GPU service area to go up to levels comparable to those in surrounding areas. The definition of "surrounding area" could be controversial as could be the method for equitably comparing rates. We examined both monthly bill totals and electric costs as a percent of disposable household income for selected utilities and found wide discrepancies. Consolidated Edison of New York customers, for example, have the highest per kilowatt hour cost but the lowest percentage of net disposable household income spent on electric energy. Under the terms of the January 1982 Pennsylvania regulatory rate order, Met Ed rates for residential customers are now exceeded by only one Pennsylvania utility company but are considerably less than utilities in lower New York State and New Jersey. Penelec's rates are the third lowest in Pennsylvania.

The decision as to what utility rates GPU customers' rates should be comparable is a judgemental matter. We do not have the necessary data for each utility to assess the exact amount of money that would be generated if GPU rates were increased to the level of the highest rate paid by customers in Pennsylvania and New Jersey. We do know, however, that the revenues would exceed the annual amount needed to complete the cleanup and that Penelec would collect far more revenue from its customers than it would need to meet its 25 percent share of the cleanup cost.

5. Have you calculated the total funds that would be generated by enactment of S. 1606, as reported by the Senate Energy Committee?

ANSWER: GAO has not independently made such a calculation. We have, however, obtained from the utility industry estimated levels of contributions based on current nuclear plant data for the period 1982-1987. These amounts are shown below.

Year	Total capacity (megawatts)	Total allocation
1982	106,767	$ 23,408,131
1983	121,154	27,488,613
1984	129,111	29,745,597
1985	131,838	30,518,985
1986	134,561	31,291,325
1987	134,561	31,291,325
		$173,743,976

6. In your opinion, if this legislation were to include a provision requiring a determination that electric utility rates in the GPU service area are comparable to other electric utility rates in the Northeast as a condition of the imposition of any fees under this bill, how would such a determination be made and would such a scheme be feasible?

ANSWER: We believe it would be difficult to legislatively force rates in the GPU service area to go up to levels comparable to those in surrounding areas. The definition of "surrounding area" could be controversial as could be the method for equitably comparing rates. We examined both monthy bill totals and electric costs as a percent of disposable household income for selected utilities and found wide discrepancies. Consolidated Edison of New York customers, for example, have the highest per kilowatt hour cost but the lowest percentage of net disposable household income spent on electric energy. Under the terms of the January 1982 Pennsylvania regulatory rate order, Met Ed rates for residential customers are not exceeded by only one Pennsylvania utility company but are considerably less than utilities in lower New York State and New Jersey. Penelec's rates are third lowest in Pennsylvania.

The decision as to what utility rates GPU customers' rates should be comparable is a judgemental matter. We do not have the neccessary data for each utility to assess the exact amount of money that would be generated if GPU rates were increased to the level of the highest rate paid by customers in Pennsylvania and New Jersey. We do know, however, that the revenues would exceed the annual amount needed to complete the cleanup and the Penelec would collect far more revenue from its customers than it would need to meet its 25 percent share of the cleanup cost.

7. If this legislation does not go forward, what is the likelihood that the federal government will have to assume ever increasing, and perhaps even full, responsibility for the cleanup of TMI-2? If this is the case, what might the ultimate cost be to the federal government?

ANSWER: If the utility industry does not receive its requested congressional mandate to participate in the TMI-2 cleanup program, it is highly probable that the estimated $173 million contribution expected from the industry will have to come from some other source. As we indicated in our testimony statement, the most viable source is the GPU ratepayer. This would require State regulatory commission action, however, and such action is not likely to be mandated by the Congress. If the States do not require sufficient ratepayer contribution to cover the cleanup costs, and TMI-2 degenerates into a condition that poses health and safety problems, than it is possible that the Federal Government would be forced into assuming a part of the cost.

The ultimate cost to the Federal Government cannot be predicted with any degree of accuracy because of the uncertain nature and timing of other possible financial assistance. If the GPU ratepayers, the States of Pennsylvania and New Jersey, DOE's R&D offset to cleanup costs, and insurance proceeds materialize as planned, about $400 million could be made available over the 1983-88 time period. This would leave a remaining balance of somewhere between $250 to $360 million, depending on how accurate GPU's current budget forecast is and how well cleanup timetables are met. As we pointed out earlier, however, the longer the cleanup is delayed, the more costly it is likely to be. If the other prospective parties to the cleanup limit their contributions to the $400 million as indicated above, the residual--which could conceivably be required from Federal funds--would increase in direct proportion to the cost of the delay.

Union of
CONCERNED
SCIENTISTS

UNITED STATES SENATE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

Testimony of

Michael Faden

Legislative Counsel, Union of Concerned Scientists

on behalf of

ENVIRONMENTAL ACTION

ENVIRONMENTAL POLICY CENTER

FRIENDS OF THE EARTH

NATURAL RESOURCES DEFENSE COUNCIL

NUCLEAR INFORMATION AND RESOURCE SERVICE

SIERRA CLUB

UNION OF CONCERNED SCIENTISTS

On S 1606 and the cleanup of Three Mile Island Unit 2

May 4, 1982

Thank you for the opportunity to present our views on S 1606 and the cleanup of Three Mile Island Unit 2 (TMI-2). My name is Michael Faden, and I am legislative counsel for the Union of Concerned Scientists. In addition to UCS, I am presenting this testimony on behalf of the national safe energy and environmental groups listed above.

Let me begin by focusing on what the legislation before you, S 1606, does and does not do. S 1606 does not secure funding for the entire cleanup. Nor does it rescue General Public Utilities from its ultimate financial fate, whatever that may be. S 1606 simply transfers a portion —less than 20%— of the currently estimated cleanup costs from one set of ratepayers to another.

We believe that no federal legislation is necessary, because GPU could still pay for the cleanup itself.

As GPU's Chairman, William G. Kuhns, admitted last September, the TMI-2 cleanup "is not the rate-making burden that some tended to think when we first addressed the issue." Mr. Kuhns went on to say that an average 10% rate increase for the three GPU subsidiaries over the next six years would cover the full cost of the cleanup. According to Mr. Kuhns, "even if the full burden were laid on the company, the rates of our customers will not be out of line with customers of other companies."

GAO studies confirm that GPU could finance the entire cleanup through relatively modest rate increases on a "pay as you go" basis, and that GPU's rates would stay well within the range of rates now charged by other major Northeastern utilities.

Although GPU's rates have increased significantly since the 1979 accident, not a single dollar of ratepayer money has gone toward the cleanup. In addition, GPU's managment and creditors have escaped the financial fallout from the accident, although its common stockholders have suffered some significant losses. The Pennsylvania and New Jersey public utility commissions, rather than Congress, are the proper bodies to decide how best to allocate the costs of GPU's mismanagement.

Under the most recent Pennsylvania Public Utility Commission rate settlement, no GPU ratepayer money can be used for the TMI-2 cleanup until TMI Unit 1 is successfully restarted. (A perhaps unintended consequence of this arrangement is that, if S 1606 is enacted but TMI-1 never restarts, ratepayers nationwide will be firmly committed to paying a share of the TMI cleanup while GPU's ratepayers do not pay a cent.)

In our view, it is essential that the funding of the TMI-2 cleanup be completely divorced from the restart of TMI-1. Only then will the restart of Unit 1 be considered on its technical merits. If the two issues are linked, then the pressures for restart can only compromise the protection of Central Pennsylvania residents' health and safety.

As representatives of the banking syndicate that administers GPU's Revolving Credit Agreement told a House subcommittee last week, "While there may at one time have been some logic to the linkage of rate relief with Unit 1 restart, such linkage is no longer feasible because of the timing uncertainties introduced by the steam generator tube problem and the psychological stress issue. Ratepayer cleanup funding must be unlinked from Unit 1 restart in both states if the Thornburgh Plan is to be at all meaningful in the near-term."

As far as we know, neither GPU nor the Nuclear Regulatory Commission (NRC) is actively planning how to pay for the cleanup work once GPU's property insurance proceeds run out in 1983. If at that point GPU claims an inability to proceed with the cleanup because of lack of funds, we believe that the NRC will be legally obligated under the Atomic Energy Act to order GPU to take the specific actions that constitute the next steps of the cleanup. GPU will then be able to go to the Pennsylvania and New Jersey utility commissions, NRC orders in hand, and have the expenses of complying with those orders included in its rates as a matter of law.

The only appropriate role in the TMI cleanup for Congress is to assure the protection of the public health and safety. The NRC already has the authority, and the responsibility, to direct GPU to take whatever steps are necessary to prevent or mitigate any threat to public health and safety. At this point the NRC has not ordered GPU to take any actions beyond those the company has already planned.

Last year the threat of a GPU bankruptcy was used, unsuccessfully, in an attempt to stampede Congress into hasty action. That threat proved to be illusory. GPU's finances, while far from healthy, have stabilized during the past year. GPU's most recent annual report indicates that its subsidiaries expect to meet their state tax and bond refunding obligations during the next twelve months. Thus we have no reason to expect another deadline crisis of the sort that GPU underwent last April.

This year the threat of an imminent health and safety crisis is being used in the same way. We do not face a crisis today, and we should not expect to face one in the forseeable future. TMI-2 certainly represents a potential danger to the public, and we do not wish to understate the hazards it poses. But neither should that danger be exaggerated. Unfortunately, it appears that the NRC may be overstating the risks at TMI-2 in order to accelerate the funding of the cleanup, while at the same time understating the risks of restarting TMI-1 for reasons also linked to cleanup funding.

All the NRC documents that we have seen indicate that the likelihood of the TMI-2 reactor going critical is extremely low, and even if that occurs the situation could be easily controlled without harm to the public. Although the other potential risks mentioned in Chairman Palladino's recent letters to certain Senators and Congressmen — equipment deterioration, severe weather, or fires that separately or together could result in unplanned radiation releases — are not wholly implausible, the only preventive action the NRC has taken has been to join GPU in begging for funds from Congress. If Chairman Palladino's concerns have valid technical bases, the people of central Pennsylvania deserve to be informed of those bases and, more importantly, of the steps (beyond writing anxious letters to Congress) that the NRC will take to reduce any current or forseeable threat to the public health and safety.

If an imminent threat to the public does arise at TMI-2, Congress should consider some form of federal technical and financial assistance that would make immediately available whatever funds are necessary, on a reimbursable basis, without transferring the cost to taxpayers or consumers nationwide. However, S 1606 does not provide such emergency relief; in fact, it does not in any way prepare for a health and safety emergency.

We do not believe that GPU's ratepayers should bear the entire burden of the cleanup. However, if that is the eventual result, it will be due not to the reluctance of Congress to act, but rather to the failure of the nuclear industry to make good on its commitments.

When Governor Thornburgh announced his cost-sharing plan last year, we viewed it as a promising first step toward breaking the TMI cleanup funding impasse, although we opposed the allocation of substantial amounts of federal funding unless those funds were diverted from wasteful federal nuclear research projects such as the Clinch River Breeder Reactor.

At the same time, we understood that the nuclear industry component of Governor Thornburgh's plan would be exactly as it had been publicized: a "voluntary" contribution on the part of those firms — electric utilities and reactor manufacturers, contractors and suppliers — with a clear economic interest in removing the uncertainty that TMI symbolized.

We were encouraged by the Edison Electric Institute's pledge, on behalf of its member utilities, of $192 million over the next six years as their share of the cleanup. We were also impressed by EEI's declaration that "the EEI proposal is not contingent upon the participation of others, including the federal government." We saw this as a healthy sign that the industry leadership had recognized their own self-interest and were ready to act on it.

With that background, we expected the industry leaders on the EEI board to immediately ensure that their own utilities led the way in making this pledge a reality. As you know, that did not happen. Only one utility, Rochester Gas and Electric, has actually announced its intention to contribute. We can only speculate that EEI's leadership has spent most of their energies lobbying for mandatory federal legislation rather than persuading their members to make good on their "voluntary" commitment.

If the electric utilities have concluded, as their public statements indicate, that contributing to the cleanup will be in their best interest, they do not need federal legislation to authorize those contributions. An act of Congress should not be necessary to persuade their stockholders of the legality or wisdom of that business judgment.

Likewise, if the private utilities hope to pass all or part of those contributions through to their ratepayers, and can make a case that those contributions are in their ratepayers' interest, then the state regulatory agencies will take the appropriate actions without federal direction.

Either way, there is no legitimate reason for EEI's members to withold their contributions. As with any other discretionary expenditure (such as their own EEI membership dues, which are roughly equivalent on a per-customer basis to the TMI cleanup contribution), the utilities can sign their checks first and apply for reimbursement in the normal course of ratemaking. Even in the utilities' worst case scenario — a complete denial of reimbursement by their state regulatory bodies — it is unlikely that the size of the contribution would adversely affect any company's finances.

For example, under S 1606 Consolidated Edison would pay somewhat less than one one-thousandth of its 1981 profits ($247,609 out of $448,000,000). Likewise, Commonwealth Edison would hardly be devastated by diverting $1,600,000 from its 1981 profits of $449,900,000. The same principle applies to Southern California Edison ($682,985 cleanup share and $224,100,000 profits); Texas Utilities (approximately $652,000 cleanup share and $405,700,000 profits); Florida Power and Light ($850,323 cleanup share and $224,100,000 profits); and doubtless to the other EEI members that can afford to operate nuclear powerplants.

Proponents of S 1606 argue that all utilities, or at least all nuclear utilities, are paying higher interest rates on their bonds and preferred stocks because of a risk premium that will be reduced when funds for the TMI cleanup are assured. This argument fails to justify this legislation for two reasons. First, to the extent that a nuclear risk premium can be attributed to TMI, it stems not from the failure to clean up the plant but rather from the basic fact of the accident itself. The TMI accident proved to utility investors that a $2 billion asset could be destroyed in a half-hour, through relatively mundane causes. Because this legislation does not protect investors against the loss of their assets, it cannot reduce that aspect of utilities' risk premiums. Second, if the cleanup risk premium argument were valid, it would not justify federal action of any sort. One investment firm calculated that a reduction of only .05% in the utilities' annual interest rates would completely offset their $192 million contribution to the TMI cleanup. In that case, the utilities most affected should be eager to contribute voluntarily, without federal compulsion.

The stated purpose of S 1606 is to assure that all of the nation's nuclear utilities share in the cleanup cost. However, this legislation actually does much more. It effectively requires the utilities' TMI contributions to be passed through to their ratepayers nationwide. That result, we believe, is fundamentally unfair because other utilities' ratepayers had no connection with GPU or TMI, received no benefits from either, and were not in any way responsible for the accident.

Unfortunately, the provisions of Section 9 of S 1606 do not prevent an across-the-board passthrough. Section 9 is vaguely worded, with little clue to its legislative intent. More fundamentally, under state law in most jurisdictions any federally-mandated expenditure would be treated as an operating expense incurred in the ordinary course of doing business and automatically included in the rate base. Thus, the state utility commissions will generally have much less discretion to allocate these costs than the proponents of S 1606 claim they have.

If Congress feels compelled to enact this legislation as a way to ensure that no utility "escapes its responsibility," Congress should also ensure that ratepayers nationwide do not bear the entire cost. The only statutory mechanism that would fully protect ratepayers is a ceiling on the amount of the TMI contribution that could be included in a utility's rate base. That ceiling could be as low as zero, reflecting a Congressional determination that the benefits to utility stockholders from this legislation are significant enough to warrant their bearing this expense.

We strongly support voluntary contributions to the cleanup from the entire nuclear industry, including the reactor manufacturers, contractors and suppliers. They have at least as great an economic interest as the utilities in the success or failure of the TMI cleanup. Unlike the utilities, many nuclear vendors are earning substantial profits from installing the post-TMI design and hardware retrofits mandated by the NRC. If this legislation were to go forward, the manufacturers, contractors and suppliers can and should be brought within its scope, simply by conditioning the utility fee upon the payment by these parties into a trust fund of a certain percentage of the cleanup cost (we suggest 25%).

Even with these provisions, this legislation would set a dubious precedent for future assistance to other ailing utilities. As you know, the cancellation of two nuclear powerplants in the WPPSS system may cost Pacific Northwest ratepayers $7 to 9 billion, dwarfing the TMI cleanup bill. This legislation establishes a mechanism that could also be conveniently used to "solve" the problems of WPPSS, or TVA, or even oil-dependent Northeastern utilities with high rates. If Congress is looking for utilities to subsidize, we suggest those with effective conservation programs rather than cancelled or ruined nuclear reactors. At least then the public will get some benefit from its tax or rate dollars.

At bottom, S 1606 is an economic regulatory bill, not a health and safety measure. It should not be enacted because Congress is not the appropriate forum in which to allocate expenses that are traditionally within the jurisdiction of state regulatory bodies. To us, the TMI situation boils down to a faceoff between the Pennsylvania and New Jersey public utility commissions, on the one hand, and the nuclear industry on the other. Neither wants to see its "clients" bear any part of the cleanup burden. We fail to see any sound reasons why Congress must referee this match, and we agree with Presidential Counsellor Edwin Meese that in the end "The responsibility for the financial burdens created by the TMI accident must rest primarily with those who produced and used the electric power from the facility, not the Federal Government."

As long as GPU and the rest of the nuclear industry believe that the federal government will ultimately bail them out, they will not take the necessary actions to solve this problem on their own. If Congress does not step in, the private sector will have strong incentives to avoid the financial dislocations and public embarrassment that would accompany a shutdown of the TMI cleanup. We can only pass on what Barron's, the financial journal, reported last summer: "Industry sources say privately that if no federal or ratepayer contribution to the clean-up costs can be pried loose, the utilities are in fact prepared to bankroll the clean-up themselves rather than leave it hanging indefinitely over the industry's head." Rarely has Congress been so clearly warned.

Union of
CONCERNED
SCIENTISTS

June 4, 1982

Hon. Alan K. Simpson
and Hon. George Mitchell
U. S. Senate
Washington, DC 20510

Dear Senators Simpson and Mitchell:

Attached herewith, are our responses to your questions regarding S 1606 and the clean-up of Three Mile Island Unit 2.

We appreciate the opportunity to present our views to the Environment and Public Works Committee.

Sincerely,

Michael Faden
Legislative Counsel

Enclosures

Answers to questions from Senator Simpson

1. At the moment an orderly planned cleanup is all but impossible as long as GPU continues to rely on highly uncertain contributions from the three major parties to the Thornburgh plan: the other nuclear utilities, the federal government, and GPU itself (while its contribution depends on the restart of Unit 1). We have proposed a far more orderly approach. Once the NRC issues its orders and the state utility commissions recognize them, financing of the cleanup will be assured. All that is required is for each party to act in accordance with its current legal responsibility; no further legislation is necessary. Progress would not be frozen while GPU waits for help from Congress.

Your question is based on several assumptions that we do not necessarily share: 1) the other utilities will continue their refusal to contribute voluntarily, 2) the Pennsylvania and New Jersey utility commissions will not perform their duties without legal compulsion, and 3) the NRC will not anticipate any developing hazard at TMI-2 sufficiently in advance to take the proper actions. While each of these results is indeed possible, it is difficult to believe that all of the parties will act in a totally irresponsible manner.

We must particularly emphasize the NRC's responsibility to monitor the cleanup closely, look for the danger signals that GPU and its contractors may be losing control of the site, and take appropriate action. If NRC has already perceived a significant risk, it should have ordered GPU to remedy and mitigate the hazard. If the NRC had so acted, GPU would now have the right to collect the funds for an "orderly" cleanup.

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2. GPU has said that if all the funds needed were available, no more than $150 million could be efficiently spent each year. While this might result in some quickening of the cleanup's pace, it would neither substantially advance the timing of the cleanup's major elements nor significantly reduce the hazard to the public. Under every estimate known to us, the cleanup will take at least five years to complete. Proceeding too rapidly with the cleanup will increase the risks to the public as much as, if not more than, proceeding too slowly. The goal of all parties should be a deliberate, controlled pace unhindered by lack of funds and uninfluenced by political considerations.

This legislation does not assure that the funds contemplated under the Thornburgh proposal will become available today or at any time in the forseeable future. S 1606 will raise only $170 million of the $760 million envisioned in the Thornburgh proposal -- less than one-fourth of the full amount. If this legislation were enacted, the availability of much of the federal share and all of the GPU share would still be highly uncertain. This legislation does not assure, and does little to stimulate, the other parties' contributions.

3. The contaminated TMI Unit 2 presents a very low potential of a serious risk to the public over the next two years, in our view. Based on the information disclosed to the public by NRC and GPU, we have sufficient confidence that TMI-2 poses no immediate danger to the public. While we have empirical knowledge only about the plant's current condition, and thus hesitate to draw any conclusions that apply beyond the next one to two years, it is entirely possible that, at the end of that time period, a similar finding would be warranted.

The principal risk factor at TMI is the uncertainty of the situation. As you know, neither NRC nor GPU has ever had to confront a similar set of technical problems. This calls for a cautious, well-planned, step-by-step approach to the cleanup. The need for caution, and the critical importance of NRC's oversight, also stem from our strongly-held doubts, based on the company's record to date, about GPU's ability to safely manage the cleanup.

The precise nature of the danger we envision is the release of radioactive materials presently contained in the reactor core. This danger has somewhat diminished since almost all of the contaminated water in the containment building has been removed and the level of contamination in the primary system has been substantially reduced. At this point, it is difficult for us to imagine a credible sequence of events that would result in significant leaks of radioactive materials, particularly since there is no driving force (such as heat or pressure) to force the radioactive materials from the containment area. For this reason, we would rate the level of risk posed by Three Mile Island Unit 2 as in all probability less than that posed by any operating nuclear powerplant. (Since the level of risk posed by presently operating plants is in our view unacceptable, all that we intend to say here is that the lesser risk at TMI-2 is not of sufficient magnitude to warrant precipitous action by GPU, NRC or the Congress.)

The only immediate hazard to the public results, not from the plant's contaminated condition, but from a method of decontamination selected by GPU and approved by NRC. Specifically, the deterioration of the organic resins used to decontaminate the water will generate hydrogen gas, running the risk of a hydrogen explosion. As NRC's own documents indicate, the agency was well aware that this potential hazard would result from this method. We would rate the magnitude of this risk as also less severe than that of an accident at an operating plant; it is unlikely to result in accident releases of any significant amount.

None of the other risks alluded to by the NRC appear to us to be substantial. The potential for an inadvertant recriticality is very low and, as NRC's earlier documents have pointed out, would result in no significant danger to the public if it were to occur. NRC has raised the possibility of equipment deterioration, but has provided no specific information on which equipment could be expected to deteriorate and with what results. (NRC advanced a similar rationale when it supported GPU's proposal to vent krypton gas from the containment a year after the accident, claiming that certain equipment such as the neutron detectors and fan coolers had to be repaired quickly. When UCS' technical analysis determined that NRC's information was not accurate, NRC abandoned this rationale and based the venting on the need to reduce psychological stress in the surrounding population.)

In our view, the relationship between the danger to the public and the availability of funds for the cleanup is much less direct than the relationship between that danger and the NRC's unwillingness to order GPU to take the steps necessary to maintain the plant and its surroundings in a safe condition. The clearest example of this is the NRC's failure to order GPU to dispose of the Epicor liners before the hydrogen threat becomes unmanageable. NRC's hesitation is apparently based on their belief that any order to GPU could be the last straw that drives the company into bankruptcy. Besides being factually groundless, that notion puts the cart before the horse; NRC's job is to insure safety, not to worry about the company's solvency. That task is appropriately reserved for the two public utility commissions, and their actions over the past year have shown that they will take all the necessary steps --sometimes at the last moment-- to save GPU from bankruptcy.

4. No, we do not believe that the reactor core poses no potential threat to public health and safety. Our view of the threat it may pose is set out in the answer to question 3.

We agree that TMI-2 was not intended to be a waste disposal facility and does not meet the NRC's criteria for that purpose. Neither we nor, to our knowledge, any other party advocates that TMI be used as a long-term waste repository. We do not propose to accept any lesser degree of protection than that afforded by NRC's regulations that apply to any other operating reactor at which spent fuel is stored, and we believe that the waste storage risk at TMI is now comparable to that at any such operating reactor.

At this point, the greatest impediment to the cleanup's progress appears to be GPU's undue reliance on outside financial assistance. We have said many times that the level of funding should not control the timing of the cleanup. Unlike many of the other witnesses, we proposed a course of action that would remedy that dilemma: NRC should simply order GPU to do what is necessary to implement the cleanup, and the state utility commissions will be legally bound to recognize those orders and allow the expenses of compliance to be included in the rate base. There is no dispute about GPU's ability to pay for the cleanup; as you know, GAO has calculated that to replace the amounts that would be derived from other utilities under S 1606 would require rate increases of only 2.3, 0.9 and 0.6% for the three GPU subsidiaries.

5. Those who will benefit from the cleanup are primarily GPU, its investors and ratepayers, and the residents of the surrounding area. Other nuclear utilities will receive some benefit from the knowledge gained in the cleanup process; we believe that this research should be funded by the utilities themselves, rather than the federal government as it is now. We doubt very strongly, as explained in our testimony, that other utilities will receive any direct economic benefit, through a reduced risk premium or otherwise, from the completion of the cleanup. If the nuclear utilities are convinced that substantial benefits will accrue, they should have no trouble persuading their shareholders that this business judgment is valid. Federal legislation is an inappropriate substitute for such persuasion.

Discussion of the "benefits" of cleaning up TMI have been used by GPU and Governor Thornburgh as a convenient way to distract attention from the real issue: who should be held accountable for this accident. Certain of the parties, such as the federal government (acting through the NRC) and the reactor manufacturer (Babcock & Wilcox), will have their legal responsibility determined in court. In our view, the overriding national policy involved here is the prevention of future accidents, and the "bailing out" of GPU in this instance will send exactly the wrong signal to all other nuclear licensees. Congress should be looking for ways to increase, rather than decrease, the responsibility of reactor operators for the way in which they manage this dangerous technology. Futile attempts to quantify the "benefits" of this cleanup only cloud the issue. (If a "benefit" test were the major criterion for enacting this kind of legislation, then some form of bailout for the Washington Public Power Supply System would certainly, through a reduction in the uncertainty facing the municipal bond market nationwide, confer the most benefit on the public as a whole.)

Answers to questions from Senator Mitchell

1. We do not have the information that is necessary to answer this question. GAO, DOE or the Edison Electric Institute may have this information.

2. Yes. Neither the cleanup nor the restart will be completely safe if either is linked to the other. If, as the Pennsylvania PUC has ordered, the funding for the cleanup is made partially dependent on the restart of Unit 1, the pressures for restart may overwhelm the legitimate safety issues that still remain unresolved at Unit 1. (The attached testimony, submitted to the House Subcommittee on Energy and the Environment of the Committee on Interior and Insular Affairs during their recent visit to the Harrisburg area, spells out some of the deficiencies in the NRC's examination of the suitability of TMI-1 for restart.) Similarly, the cleanup will suffer if its funding is linked to the Unit 1 restart and if, as now appears to be the case, Unit 1 does not restart in the forseeable future. As we emphasized in our written testimony, our strongest recommendation is that these two issues be completely separated..

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Testimony of

ROBERT D. POLLARD and STEVEN C. SHOLLY

On Behalf of

THE UNION OF CONCERNED SCIENTISTS

Before the

SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT

COMMITTEE ON INSULAR AND INTERIOR AFFAIRS

UNITED STATES HOUSE OF REPRESENTATIVES

CONGRESSMAN MORRIS K. UDALL, CHAIRMAN

March 29, 1982

Middletown, Pennsylvania

Mr. Chairman, members of the Committee, and guests, thank you for the opportunity to testify on the important subject of the safety, or lack thereof, of the two nuclear power plants on Three Mile Island. You are to be commended for hearing directly the concerns of the people who face the risks posed by the Three Mile Island plants.

The Union of Concerned Scientists is an organization of scientists, engineers and other professionals supported financially by over 120,000 members of the public throughout the United States. In early 1980, Governor Richard Thornburgh asked UCS to conduct an independent study of the hazards posed by the presence of radioactive krypton gas in the TMI-2 containment and to evaluate alternative methods for removal of the gas. In addition, UCS was represented on a panel formed by the Environmental Protection Agency at the request of citizens in this area to review the NRC's environmental impact statement on the TMI-2 cleanup.

UCS is also an active participant in the NRC hearings concerning the possible restart of Three Mile Island Unit 1, on behalf of those of our sponsors who live in the area. Steven C. Sholly, a long-time resident of central Pennsylvania and a member of UCS's staff since early 1981, has also participated actively in the TMI-1 restart hearing as an individual.

UCS is continuing its evaluation of the adequacy of NRC's post-TMI requirements and their implementation. We hope to complete a book-length report on the NRC's response to the TMI accident in a few months. The book will trace the development of the TMI Action Plan, illustrate the extent to which NRC has implemented and enforced the "lessons learned" requirements, and present UCS's recommendations for action to ensure that those safety requirements do not become the "lessons lost."

Our testimony today addresses the safety status of Three Mile Island Units 1 and 2. While relying partially on some of the information obtained during our research for the forthcoming book, this testimony is based primarily on our participation in the NRC Licensing Board hearings on the restart of Unit 1 and our continued monitoring of the Unit 2 cleanup process. Given the time available today, we will not attempt to present detailed examples of a technical nature. Instead, we wish to bring to your and the public's attention the gamesmanship and, in some cases, misconduct that have precluded a reasoned decision-making process to determine whether TMI-1 should be permitted to restart.

RESTART OF TMI-1: IS IT SAFE?

UCS and Mr. Sholly have been the principal members of the public to raise design-related safety issues in the restart hearings. Other parties to the proceeding have raised important issues concerning the utility's management, operator training, and emergency planning. It is important to recall that, in ordering these hearings, the Commission stated that because of the accident at TMI-2, it "presently lacks the requisite reasonable assurance that the same Licensee's Three Mile Island Unit No. 1 facility, a nuclear power reactor of similar design, can be operated without endangering the health and safety of the public".[1] The Commission ordered TMI-1 to remain shut down until it determined whether the actions proposed to be taken at that unit were sufficient to provide adequate protection for the public health and safety.[2]

The Commission expected a Licensing Board decision within 335 days, i.e. in the fall of 1980. The Commission's estimate of the hearing's length was equally remarkable in its lack of accuracy -- 60 days. The hearing did not actually begin until October 1980, and some issues are still pending before the Licensing Board. Other issues are presently on appeal and the Commission has yet to render a decision on whether and under what conditions restart will be permitted.

This deviation from the Commission's original schedule was not caused by the use of dilatory tactics by the public intervenors. Instead, the delays were primarily the result of the NRC staff's inability to produce its safety evaluation report on the proposed restart of TMI-1 until June 1980 (supplements continued to be issued through early 1981)[3], the need to reopen the hearing after cheating occurred during the TMI-1 operator licensing exams, and the time necessary for the Licensing Board to review the lengthy evidentiary record and write a decision. Any "delay" attributable to the public's participation in the hearing was the result of the large number of valid, complex safety issues raised by the TMI-2 accident. It should be noted that but for the public's participation in the restart proceeding, many of these safety issues would not have been addressed.

In the meantime, the utility that showed the world how to destroy an operating nuclear power plant has earned the dubious distinction of demonstrating that it can also severely damage a plant that was already shut down. Investigations are underway to determine the extent of damage to the TMI-1 steam generators and the remainder of the reactor's primary cooling system, which was apparently caused by the introduction of sulfur into the system.

But for these "technical difficulties" (in NRC Chairman Palladino's euphemistic phrase), we believe that NRC would have already authorized restart. We are convinced, however, that such a decision could not have been based on a careful, complete, and objective review of the serious safety hazards at TMI-1. In UCS's view, restart of TMI-1 in the condition proposed by GPU and the NRC staff would subject the residents of this area to an undue risk to their health and safety.

UCS has described some of the inadequacies of the restart hearings in letters to Governor Thornburgh dated October 19, 1981, and January 26, 1982. We have to date received no response from the Governor, although on November 20, 1981, he urged the NRC to "conduct a careful and objective review" of the concerns raised by UCS and Representative Udall in an earlier letter.

Water Level Instrumentation: A Central Issue

One of the issues we addressed in our latest letter to Governor Thornburgh was the lack of instrumentation to measure the water level in the TMI-1 reactor vessel. Chairman Udall also addressed this issue in his letter to Governor Thornburgh dated July 23, 1981.

The subject of instrumentation to measure water level in the reactor vessel has been a major issue in the TMI-1 restart proceeding, as well as a prime area of concern for every other pressurized water reactor since the TMI-2 accident. The lack of such instrumentation in TMI-2 was the fundamental reason why the reactor operators took what was, in retrospect, exactly the wrong action by shutting off the emergency cooling system. The controversy that has surrounded the need for such instrumentation is, in UCS's view, largely contrived. While opposition arguments have been couched in terms relating to safety, the real source of opposition stems from concerns about cost and schedule and a reluctance to admit that accidents involving multiple equipment and human failures can occur, as already demonstrated at TMI-2. An internal NRC staff memo addressing certain Advisory Committee on Reactor Safeguards (ACRS) concerns on this subject makes the following points:[3]

1) It should be remembered that the requirement for reactor water level instrumentation was suggested by most, if not all, of the organizations that reviewed this aspect of the TMI-2 accident, especially the ACRS which insisted upon the need to install water level instrumentation.
2) There is no general disagreement today on the utility of reactor water level instrumentation.
3) "The staff believes that the ACRS concerns primarily reflect the expressed views of applicants and licensees."
4) Opposition to water level instrumentation has given little cognizance to the fact that the intended purpose of this instrument is to provide in-depth protection against unpredictable accident scenarios involving multiple failures.

Remarkably, despite the strength of these conclusions, the NRC staff supports restart of TMI-1 without requiring such instrumentation to be installed.

Restricted Scope of the Restart Hearing

The Commission legalistically restricted the issues that could be raised in the restart hearings to those with a "direct nexus" to the accident at TMI-2. Whether an issue had an acceptable relationship to the accident depended to a large extent on who raised it. The NRC staff raised issues relating to the safety consequences of a loss of offsite electrical power, even though offsite power was not lost during the accident. UCS, on the other hand, was prohibited from raising the issue of inadequate hydrogen control systems, even though substantial hydrogen control problems arose during the TMI-2 accident. UCS was also prohibited from raising long-standing unresolved safety problems such as fire protection on the ground that no fires occurred during the accident. It is apparently NRC's position that these safety problems cannot be publicly examined until they happen to cause an accident.

Evidence relating to steam generator tube ruptures, offered by UCS, was also rejected by the Licensing Board on the similar ground that a tube rupture did not occur during the accident. (This is somewhat ironic considering the current condition of the TMI-1 steam generators.) After a steam generator tube rupture, the operator should immediately attempt to depressurize the reactor below the pressure at which the steam generator safety relief valves open. Because of the tube break, opening of these valves would result in discharging radioactive steam to the environment. The pressurizer relief valve (which stuck open during the TMI-2 accident) is used to depressurize the reactor in such a situation. By refusing to consider accidents involving rupture of a steam generator tube, the TMI-1 Licensing Board did not examine the role of the pressurizer relief valve in such accidents. The January 1982 accident at the Ginna plant in upstate New York and the NRC staff's evaluation of that accident[4] have since amply confirmed the importance of the pressurizer relief valve in protecting the public during a steam generator tube rupture accident.

In sum, by restricting the scope of the hearing, the NRC has effectively decided not to consider safety problems at Three Mile Island Unit 1 because they did not cause the Unit 2 accident and have not yet caused an accident in Unit 1.

Qualifications of NRC Witnesses

Another defect in the restart hearings was that the NRC staff witnesses were often ill-qualified on the relevant subjects and had little technical understanding of the sequence of events at TMI-2 and their safety implications. UCS has since discovered an internal NRC staff document indicating that NRC's own Director of Licensing shares this opinion. The memo, written and widely distributed to senior staff officials just four days before some NRC testimony was filed, admits that some NRC witnesses "appear not to be entirely knowledgeable and qualified."[5] This is one NRC statement with which UCS fully agrees. Unfortunately, the NRC failed to inform the Licensing Board that its witnesses were not knowledgeable and qualified.

In one instance, the staff witness did not attempt an in-depth analysis of the Unit 2 accident. Instead, the witness relied on a computer analysis purporting to show that the reactor fuel will be adequately cooled in a future accident. This computer analysis was based on the assumptions that the operator will not make a mistake such as shutting off emergency cooling, that delivery of emergency feedwater to the steam generators will not be lost, and that no substantial quantities of hydrogen will be formed.[6] Of course, all these are precisely what did occur during the TMI-2 accident.

Another staff witness admitted under oath that his testimony was not based on an evaluation of the TMI-2 accident and its implications, ard that his testimony was the same as it would have been if the TMI-2 accident had never occurred.[7]

A third NRC witness had no prior substantive involvement in reviewing any safety system for any operating nuclear power reactor. When cross-examined on the testimony of other NRC staff witnesses that contradicted his testimony, this witness called that testimony "careless". In another instance, this staff witness had to consult with colleagues by telephone when he was "taken aback" by some of the wording of NRC's regulations.[8]

"Cooperation" Between the NRC Staff and the Licensee

The positions of the NRC staff and GPU (on both matters of substance and questions of law) were often virtually indistinguishable; one merely echoed the other. In part this resulted from close cooperation between the NRC staff and GPU.

This cooperation went so far that on March 13, 1981, the NRC staff called a meeting at GPU's request, during which the attorneys and technical staff of both NRC and GPU rehearsed GPU's cross-examination of the NRC staff witnesses who testified only five days later. The obvious purpose of this exercise was to ensure that both the NRC staff and GPU had their "stories straight" before appearing in front of the Licensing Board.

You may recall the description of the NRC licensing review process written by the NRC's Special Inquiry Group (the "Rogovin Report"), which concluded that as a result of "a substantial amount of informal consultation between the NRC staff and the applicant" before the issues reach the Licensing Board, the formal hearings become a "ritualistic process, the result of which is effectively predetermined."[9] Apparently little at NRC has changed since that report was written.

The NRC staff and GPU also cooperated in attempts (often successful) to prevent information disputing their testimony from being entered into evidence. For example, the Board refused to admit the information provided to the NRC staff by GPU, and the NRC staff's own safety evaluation of that information, concerning the ability of safety equipment in TMI-1 to operate successfully under the temperature, pressure, radiation, and other conditions of an accident. In other instances, both the NRC staff and GPU opposed the introduction into evidence of *their own* documents on the specious ground that the intervenors had no witnesses to support the introduction of the documents. This tactic was frequently successful irrespective of the safety significance of the issues discussed in these documents.

Failure to Promptly Inform the Board and the Parties of New Information Relevant to the Hearing Issues

Many documents have recently come to our attention which show that NRC staff testimony on crucial safety issues was incomplete, misleading, or just plain wrong. The NRC staff, satisfied with "winning" the case, has not brought this information to the attention of the Licensing Board. Five examples stand out:

1) The formation of a steam bubble in the reactor or the primary cooling system which can interfere with cooling was litigated extensively. The evidence submitted was that for most small break loss of coolant accidents like the TMI-2 accident, a steam bubble will be formed and block natural circulation of the water. GPU and NRC staff witnesses assured the Board that this phenomenon was well understood and would cause no difficulty. However, long after this testimony was submitted and just a week before the Board's decision was issued, GPU provided the NRC staff with new information that was not brought to the attention of the Board and the other parties. The NRC staff had requested GPU to demonstrate "that controlled natural circulation cooldown from operating conditions to cold shutdown conditions, conducted in accordance with your [TMI-1] procedures, should not result in reactor vessel voiding." GPU's response was that cooldown of the plant *will* result in the formation of steam voids in the reactor vessel. Moreover, GPU also stated that due to the complexity of the problem, it is not possible with current computer models to predict either the occurrence or the behavior of such a steam bubble. GPU informed the NRC staff that it is "considering" the installation of additional instrumentation "so that the operator can anticipate void formation and respond accordingly," but GPU apparently does not intend to install these instruments before restart.[10]

2) The NRC staff also failed to notify the Board and parties of its conclusions regarding the "feed-and-bleed" and "boiler-condenser" cooling modes for the reactor. These core cooling schemes were heavily relied upon by the NRC staff, GPU, and the Board in concluding that TMI-1 is safe enough to restart. We have since discovered NRC staff documents noting that "there is a large uncertainty in the probability of successful cooling using feed-and-bleed,"[11] and that while core cooling in the boiler-condenser mode "might be possible . . . it seems unlikely."[12] This information is consistent with UCS's testimony in the hearing, but the NRC staff expressed no such reservations to the Board.

3) Another early concern of the NRC staff centered on those features of the TMI-1 design that would be used "to allow manual opening of the PORV [pilot-operated relief valve] during a feed-and-bleed mode of cooling."[13] The staff found the original design unacceptable, and GPU assured the NRC that it would modify the design. Despite this behind-the-scenes concern about the reliability of the PORV when used for feed-and-bleed cooling, both GPU and the NRC staff testified in the restart hearing that the PORV is not important to safety because it does not need to be used during feed-and-bleed cooling.

4) The TMI Action Plan (NUREG-0660) lists the safety improvements stemming from the TMI-2 accident that are required to be implemented at all nuclear power plants. The schedule in the TMI Action Plan heavily influenced the Licensing Board's determination on whether the safety improvements should be implemented prior to restart or could be delayed. However, an internal NRC document obtained by UCS in response to a FOIA request reveals that when the Commissioners approved the Action Plan in May 1980, the plan contained no safety rationale for the requirements and the NRC staff had no safety rationale to present.

This document shows that, six weeks after the Action Plan was approved by the Commissioners, the NRC Executive Director for Operations asked the NRC staff to develop a safety rationale for the Action Plan requirements. The specific information the Executive Director wanted was a discussion of "the basis for each requirement in terms of safety significance", "why the requirement or other action is needed", "why the particular approach was selected and other approaches were not", "why the requirement is sufficient in both scope and timing", and "the safety bases for deferring the possible safety improvement."[14] The Action Plan supposedly represents NRC's coherent, industry-wide response to the TMI accident. It is remarkable that only after the Action Plan was completed and approved did NRC's Executive Director turn his attention to such fundamental questions as the safety basis for each requirement and the reasons for not requiring certain safety measures.

UCS agrees that such information is necessary. However, neither the lack of a safety rationale for the Action Plan nor the eventual responses to the EDO's directive were ever brought to the attention of the Licensing Board and parties. Had the Board and parties known that the NRC staff was still developing a safety basis for the requirements and their implementation schedules, the Action Plan certainly would not have been accorded so much weight in the Board's decisions.

5) A final example, one which is presently requiring the Board to decide whether the hearing should be reopened, is the report of the Office of Inspection and Enforcement team which conducted the TMI-2 accident investigation.[15] This NRC team recommended a series of design-related modifications, a number of which were identical or similar to the positions advanced in the restart hearings by UCS and Mr. Sholly. The NRC staff did not produce this report during the discovery phase of the proceeding, despite interrogatories that called on NRC to identify any staff members who disagreed with the staff's formal position. As a result, the Board was unaware that some members of the NRC staff agreed with the design changes recommended by UCS and Mr. Sholly until after the hearing record was closed.

Alteration, Deletion, and Substitution of NRC Staff Testimony

In some ways most disturbing is an apparent pattern of altering, deleting or replacing the testimony of NRC staff witnesses who otherwise would have supported or (in some cases) agreed entirely with the independent technical analysis in UCS's testimony. This pattern is emerging from our current review of early versions of the staff's testimony that we recently obtained. In some instances the testimony was changed before being served; in other instances the testimony was not submitted at all because a different witness with different testimony was used instead.

For example, final testimony prepared by an NRC supervisor, including revisions suggested by the same NRC attorney who later introduced a different (and in UCS's view unqualified) witness, states that "[t]he term 'safety-grade components' which I use in this testimony should be considered synonymous with 'components important to safety'"[16] To anyone familiar with the extent to which this subject pervaded the restart hearing, it is clear that this testimony would have been exactly the same as UCS's testimony, and that it directly contradicts the testimony actually presented at the hearing by the NRC staff.

Another NRC staff witness prepared testimony concluding that TMI-1 meets General Design Criteria 34 and 35. These two NRC safety regulations impose safety requirements on the decay heat removal and emergency core cooling systems. Three weeks later, in a note to his supervisor listing "questions . . . for which I do not have ready answers", this same NRC witness wrote: "1. Does TMI-1 meet the staff's current interpretation of GDC 34? 2. Does TMI-1 meet the staff current interpretation of GDC 35?"[17] This episode points up the staff's apparent practice of picking witnesses who don't know enough to know what's true.

Quality of the Licensing Board's Decision

In some instances, the Licensing Board simply ignored major portions of UCS's testimony and wrote a decision that nowhere confronts that part of the evidentiary record. In other instances, the Board concluded that UCS prevailed, but nevertheless recommended restart without requiring prior implementation of the necessary safety measures.

For example, the Board concluded that UCS demonstrated that some of the safety equipment at TMI-1 does not meet NRC requirements intended to assure that the safety equipment will not fail during an accident.[18] Nevertheless, the Board recommended restart. This conclusion is not consistent with the NRC's duty to license only plants that meet its minimum safety requirements.

In another instance, the Board reached the following conclusion: "Given a hindsight look at the TMI-2 accident and at PORV performance, given the Staff's position which requires that the safety and relief valves function as expected during design transient and accident conditions, and given the words of GDC 14 [which imposes requirements intended to prevent loss of coolant accidents], one could easily reach the same conclusion as UCS that these valves must be classified as components important to safety and required to meet all safety-grade design criteria." Nevertheless, the Board elected not to require conformance with the applicable safety requirements, at least in part because "TMI-1 is a plant which has been fully operational for more than 4 years. It is not one which currently is evolving on the drawing board." The Board also concluded that the present design of TMI-1 "probably is not the same as if one were to set out to design a new plant on the basis of present-day knowledge."[19] Here, the Board finally deferred to the Commission the decision whether the PORV should be required to meet current safety standards.

Who Protects the Public Now?

When Congress abolished the Atomic Energy Commission and replaced it with the Nuclear Regulatory Commission, it envisioned one specific job for the NRC -- to impartially, competently, and honestly carry out technical evaluations of the safety of nuclear power plants. Implicit in this delegation of authority to regulate an inherently dangerous technology is a public trust. The public has the right to expect that every person employed by the NRC will: "Put loyalty to the highest moral principles and to country above loyalty to persons, party, or Government department [and] Uphold the Constitution, laws, and legal regulations of the United States and of all governments therein and never be a party to their evasion."[21]

When, as in this case, the NRC's licensing process has been subverted by gamesmanship and misconduct, and the agency's mandate to protect the public health and safety has been shunted aside, the responsibility to remedy these defects reverts to the public's elected officials. UCS believes that the concerns expressed by residents of this area about the competence of GPU and the integrity of the NRC are well founded. Unless elected officials force the NRC to carry out its mandate to protect the health and safety of the public, we see little or no prospect that the "careful and objective review" that Governor Thornburgh seeks will ever be carried out.

THE TMI-2 CLEANUP: ITS PACE AND RISKS

Many citizens and elected officials have expressed strong concerns about the risks posed by Three Mile Island Unit 2 and the cleanup process, as well as the pace and source of funding for the cleanup. UCS believes that the cleanup must proceed at a deliberate pace. That pace should be constrained solely by the need to carefully plan each step in the process and to develop contingency plans to cope with possible difficulties that might arise. The pace should not be controlled by squabbles over who should pay for the cleanup. (While we agree that the pace of cleanup has been too slow, it should be noted that even with unlimited amounts of money and assuming that no major difficulties arise, the cleanup could not be completed for another four to five years in GPU's own estimate). We presently see no danger at TMI-2 that would justify hasty action. Indeed, a "fast-track" cleanup would be likely to increase the potential for harm to the public and the environment.

Those concerned about the current pace of the cleanup should recall that the TMI-2 cleanup has never been GPU's first priority. GPU's senior vice-president, Robert Arnold, told an NRC task force that the TMI-2 cleanup ranks fourth in priority behind maintaining a safe condition at TMI-2, preparing for restart at TMI-1, and refueling and restart of the Oyster Creek plant.[22] We are not aware of any subsequent statements that indicate that the TMI-2 cleanup has become GPU's top priority.

In UCS's view, the risks now posed by TMI-2 can only be ascribed to the uncertainty that springs from the unprecedented nature of the situation and the concerns about the competence of GPU. In this regard, we believe

Chairman Palladino's recent comments concerning this subject are a disservice to the residents of this area. Chairman Palladino apparently hopes to pressure the federal government into some form of direct or indirect assistance to GPU. He should have heeded Commissioner Gilinsky's counsel to limit his statements to a factual appraisal of the health and safety aspects of the cleanup process.

Specifically, Chairman Palladino's letter of March 22, 1982, to Senators McClure and Simpson appears to exaggerate the danger of a serious mishap at Unit 2. Every NRC document of which we are aware concludes that the likelihood of the TMI-2 reactor going critical is extremely low and, even in the unlikely event that occurs, the situation could be easily remedied without harm to the public. Similarly, Chairman Palladino's concern about fires and failures of equipment due to the environmental conditions in the plant are in marked contrast to the NRC's general lack of concern about fire protection and environmental qualification deficiencies in currently operating plants. However, if there are technical bases for these concerns (none have been given), then Chairman Palladino should concentrate on taking the actions necessary to mitigate those risks, rather than joining in the attempts to strike a balance among the competing equities of the licensee, the ratepayers, the affected states, and the federal government.

In sum, NRC appears to be overstating the risks at TMI-2 in order to influence the sources of cleanup funding and understating the risks of a TMI-1 restart for reasons also related to cleanup funding.

CONCLUSION

We have attempted to illustrate the actions of the NRC which justify the intervention of elected officials to assure that the decisions pertaining to restart of TMI-1 and the cleanup of TMI-2 will be based solely upon considerations of protecting the health and safety of the public. Each of the examples we have given have a solid factual basis, and there are many other examples which we have not discussed here. UCS will be happy to explain in any level of detail the safety issues that are relevant to the restart of TMI-1 and the cleanup of TMI-2.

However, one need not become involved in the technical details of any particular safety issue in order to determine whether the NRC is fulfilling its responsibilities in the manner in which the Congress intended. In this regard, we commend to you the attached editorial that appeared in the Harrisburg Patriot on December 16, 1981, for a succinct and, we believe, accurate assessment of the problems which are now your responsibility.

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9. NUREG/CR-1250, "Three Mile Island: A Report to the Commissioners and to the Public," NRC Special Inquiry Group, Vol. II, p. 4, 11.
10. Letter to the NRC Office of Nuclear Reactor Regulation, Attn: John F. Stolz, from H. D. Hukill, Director, TMI-1, GPU, December 7, 1981.
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13. NRC Memorandum for H. Silver, TMI-1 Restart Project Manager, from R. Fitzpatrick, Power Systems/TMI Support Group, "TMI-1 - Manual Control of PORV," March 25, 1980.
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15. "Recommendations of TMI-2 IE Investigation Team (Operational Aspects)," September 1979.
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18. Atomic Safety and Licensing Board, Partial Initial Decision, para. 1181, December 14, 1981.
19. *Id.*, at para. 786.
20. Report of the President's Commission on the Accident at Three Mile Island, p. 20, October 1979.
21. Code of Ethics for Government Service (Incorporated in NRC Regulations at Annex A to 10 CFR Part 0, "Conduct of Employees").
22. "Evaluation of the Cleanup Activities at Three Mile Island," Report of a special task force formed by NRC's Acting Executive Director for Operations, p. IV-9, February 28, 1980.

Editorial

22—The Patriot, Harrisburg, Pa., Wednesday, Dec. 16, 1981

TMI Restart

In the Ashes of an Accident

IF THE CALIBER of investigation, analysis and thought applied to a given problem could be measured by the time consumed in doing it and the weight of the final report, then the accomplishment of the Atomic Safety and Licensing Board looking into the restart of the Unit 1 nuclear reactor at Three Mile Island merits a high ranking. After spending many months taking testimony on the fitness of the undamaged nuclear plant and the competency of the management of General Public Utilities to operate it, the three-member board has released its findings in an 800-page report. Its predictable conclusion: The Nuclear Regulatory Commission should grant GPU permission to commence operation of the reactor.

But if the licensing board was "exhaustive" in its inquiry it surely was not thorough; if it asked many questions, it failed to ask the right questions; if it looked at every screw, it could not grasp the entirety of the problem. It did, essentially, what a previous licensing board had done in certifying the safety and soundness of Unit 2, which, in a shorter time than it took to pass the NRC's rigorous review, became a world symbol of a technology that not only failed, but threatened the lives and fortunes of thousands of people.

It is possible to separate the technical connections between the two reactors at TMI -- as is being done -- but it is even beyond the power of the NRC to alter their physical proximity or to extinguish the trauma inflicted from there on a public trusting of the judgment, integrity and technical competence of the utility and its nuclear overseer. The licensing board could deal with the myriad of technical questions, it could not -- it would not -- address the psychological result when a nuclear accident rendered volumes of self-assured technological reviews into gibberish and a reactor into radioactive mush. We have a right to ask why the licensing board's judgment will be right this time when it was wrong the last time.

THERE IS MORE to the issue of restarting Unit 1 than a technological evaluation made by a panel dedicated to isolating nuclear power decision-making from the influence of the host community. It is an indication of how devoid the process is of sensitivity to its mistakes and a measure of its lack of social accountability that the operation of Unit 1 can be considered while only yards away its sister plant sits in ruin, contaminated by radioactivity, an acknowledged health and safety hazard which continues unresolved.

The system has failed to come to grips with this nuclear stepchild. No one wants to admit paternity, so the easiest thing to do is to ignore it, let it sit there. The government licenses them, the utilities operate them and the Good Lord cleans them up. The system never was prepared to deal with a $1 billion nuclear accident and it is no more prepared today, yet it proceeds with licensing of nuclear plants as if TMI never happened, as if it didn't exist, as if there wasn't an all too real risk of radioactive contamination of downstream community water systems and the irreplaceable Chesapeake Bay fishery.

Only a system that is morally bankrupt would carry on its ritual of attesting to the innocuousness of nuclear power plants across the ashes of one that says it isn't. The final decision on the recommendations of the licensing board rests with the full commission of the NRC and it will be less of a judgment on Unit 1 than it is a judgment on itself and the morality of the policies it pursues.

II

97TH CONGRESS
1ST SESSION

S. 1606

To establish a supplemental insurance fund administered by the Secretary of Energy to pay the costs of necessary remedial action following damage to nuclear powerplants, including certain remedial action at the Three Mile Island facilities in Pennsylvania, to require participation in such fund by the licensees of nuclear powerplants as a condition for the licensing and continued operation of such plants, and for other purposes.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 10 (legislative day, SEPTEMBER 9), 1981

Mr. HEINZ introduced the following bill; which was read twice and referred jointly to the Committees on Environment and Public Works and Energy and Natural Resources, pursuant to the order of September 9, 1981

A BILL

To establish a supplemental insurance fund administered by the Secretary of Energy to pay the costs of necessary remedial action following damage to nuclear powerplants, including certain remedial action at the Three Mile Island facilities in Pennsylvania, to require participation in such fund by the licensees of nuclear powerplants as a condition for the licensing and continued operation of such plants, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Nuclear Property Insurance Act of 1981".

DEFINITIONS

SEC. 2. As used in this Act, the term—

(1) "onsite property damage" means damage to, or loss of the use of, a nuclear powerplant and property which is located at the site of, and used in connection with, such nuclear powerplant. Such term does not include any damage which may be subject to a claim under section 170 of the Atomic Energy Act of 1954;

(2) "Commission" means the Nuclear Regulatory Commission;

(3) "Secretary" means the Secretary of Energy; and

(4) "fund" means the Nuclear Property Insurance Fund established under section 3 of this Act.

INSURANCE FUND

SEC. 3. (a) ESTABLISHMENT.—There is established in the United States Treasury a Nuclear Property Insurance Fund to be used by the Secretary in carrying out the provisions of this Act.

(b) CREDITS.—The fund shall be credited with—

(1) premiums, interest, and charges collected under this Act;

(2) earnings accruing to the fund under subsection (d); and

(3) any amounts recovered by the Secretary by subrogation under section 8.

(c) PAYMENTS.—Amounts credited to the fund shall be available—

(1) to make insurance payments under section 4;

(2) to make payments pursuant to section 6 with respect to the Three Mile Island Unit 2 in Pennsylvania; and

(3) to defray the expenses of administering the fund.

(d) INVESTMENTS.—Whenever the Secretary determines that the moneys of the fund are in excess of current needs, he may request the Secretary of the Treasury to invest the excess moneys in obligations issued by the United States.

INSURANCE

SEC. 4. (a) AUTHORITY TO PROVIDE INSURANCE POLICIES; PAYMENT OF CLAIMS; REQUIREMENT OF INSURANCE.—(1) The Secretary shall provide insurance policies under this Act to licensees of nuclear powerplants to supplement the insurance which is available to such licensees from private sources.

(2)(A) Each insurance policy provided pursuant to paragraph (1) shall provide for payment from the fund when the costs of necessary remedial action associated with onsite property damage caused by an accident involving a nuclear reactor, nuclear fuel, or nuclear waste, exceed, with respect to a single incident, the greater of—

(i) $350,000,000, or

(ii) $50,000,000 plus the amount of insurance coverage for such costs which the Secretary determines to be available from private sources.

(B) Payments of insurance by the Secretary under this Act may not exceed, with respect to a single incident, the greater of—

(i) $2,000,000,000, or

(ii) a maximum amount determined by the Commission to be sufficient for the remedial action.

(C) The Secretary in his discretion, may require proof of loss or damage before paying any claim for insurance provided under this Act. If the Secretary questions the validity of a claim, he may deny such claim unless a court of competent jurisdiction determines the validity of such claim in any civil action in which the validity of such claim is an issue.

(b) Insurance Coverage as Requirement for Licensing.—No operating license may be issued by the Commission under the Atomic Energy Act of 1954 for the operation of a nuclear powerplant after the date of enactment of this Act and no such license issued before such date shall remain in effect after the date one hundred and eighty days after such date of enactment unless the licensee—

(1) is insured by the Secretary for the risks of damage, and in the amounts, described in subsection (a); and

(2) has paid the premiums due and payable to the Secretary for such insurance in accordance with section 5.

PREMIUMS, RESERVE, AND ASSESSMENT

SEC. 5. (a) RATES.—(1) The Secretary shall prescribe such insurance premium rates and such coverage schedules for the application of those rates as may be necessary to provide sufficient revenue to the fund to carry out the purposes of this Act.

(2)(A) The premium rates charged by the Secretary for any period shall be based on the reserve requirements set forth in subsection (b) and on the Secretary's assessment of the risks insured. In assessing the risks associated with each insured licensee, the Secretary shall consider the number of nuclear powerplants owned or operated by the licensee, the accident experience record of the licensee, the training and qualifications of the personnel employed or utilized by the licensee and such other factors as the Secretary considers appropriate.

(B) The aggregate amount of premiums paid by all licensees insured under this Act shall not be less than $150,000,000 per year for each year until the Secretary has accumulated a reserve under subsection (b) in the amount of at least $750,000,000.

(b) RESERVE.—(1) The Secretary shall maintain a reserve in the fund sufficient to pay insurance claims made pursuant to insurance agreements entered into under this Act and to make the payments authorized under section 6(b). The amount of such reserve shall be the greater of $750,000,000 or the amount which the Secretary determines to be an actuarially sound reserve.

(2) The Secretary shall rebate pro rata to insured licensees any amount in the reserve which the Secretary determines is in excess of an amount satisfying the requirements of paragraph (1).

(c) ADDITIONAL ASSESSMENT.—Each insurance agreement entered into under this Act shall provide that if the Secretary becomes obligated under any insurance agreement entered into under this Act for any amount in excess of the amount available in the fund, each insured licensee shall pay to the Secretary, at such time, in such amount, and in such manner as may be specified by him, an additional assessment to cover such liability.

PUBLIC HEALTH, SAFETY, AND ECONOMIC RECOVERY AT THREE MILE ISLAND

SEC. 6. (a) COORDINATION AND PLANNING.—(1) The Secretary, in consultation with the Commission, is authorized and directed—

(A) to coordinate the activities of the Federal agencies having responsibilities concerning necessary remedial actions associated with the Three Mile Island Unit 2 in Pennsylvania; and

(B) to prepare a contingency plan to protect public health and safety and to maintain continuity of utility service in the event that the General Public Utilities Corporation is unable to carry out its responsibilities in connection with such Three Mile Island Unit 2.

(2) The contingency plan prepared under paragraph (1)(B) shall include preparation of requests for emergency appropriations or such other resources as may be necessary to carry out emergency activities at such Three Mile Island Unit 2.

(b) REMEDIAL ACTION AT THREE MILE ISLAND.—(1) In addition to providing insurance under section 4 of this Act, the Secretary shall reimburse the General Public Utilities

Corporation from the amounts available in the fund for 75 per centum of the uninsured reasonable costs incurred by the General Public Utilities Corporation after the date of the enactment of this Act for necessary remedial action associated with onsite property damage at such Three Mile Island Unit 2.

(2)(A) Reimbursement may be paid under this section only if the Secretary determines that the States of Pennsylvania and New Jersey have established a joint plan for regulatory and economic actions designed to insure that the General Public Utilities Corporation—

(i) continues utility service;

(ii) achieves economic stability; and

(iii) develops the ability to meet the obligation to pay future surcharges provided in subsection (c).

(B) The plan referred to in subparagraph (A) shall be compatible with the following basic principles:

(i) Financial responsibility for the accident costs will be shared among those with underlying responsibility (including company management), creditors, equity holders, and those who have benefited from nuclear power use.

(ii) State and Federal statutes and regulations to protect public health and safety will not be violated.

(iii) The States will be required to take all reasonable actions to remove such economic demands on the General Public Utilities Corporation as the windfall portions of gross receipts taxes and purchased power taxes.

(iv) The utility industry and utility industry suppliers will agree to take all reasonable actions to provide technical, financial, and credit assistance to the General Public Utilities Corporation.

(v) The Pennsylvania Public Utility Commission and the New Jersey Board of Public Utilities will be required to encourage the use of energy conservation and efficiency investments to minimize the cost of utility service to consumers and to reduce the need for additional generating capacity.

(vi) Principal creditors of the General Public Utilities Corporation shall agree to provide sufficient notification and other procedures, with respect to debt repayment, considered appropriate by the Secretary. Such procedures shall be designed to allow sufficient time for emergency arrangements to maintain utility service and to protect public health and safety from hazards at such Three Mile Island Unit 2 facilities.

(c) PREMIUM SURCHARGE AGREEMENT.—Payments may be made under this section only if the General Public

Utilities Corporation enters into an enforceable agreement with the Secretary to pay to the Secretary premium surcharges in amounts sufficient to recover 50 per centum of the aggregate amount of the obligations incurred and expenditures made by the Secretary in carrying out subsection (a). The time, amounts, and manner of payments of such premium surcharge shall be established by the Secretary.

ADDITIONAL AUTHORITY OF THE SECRETARY

SEC. 7. The Secretary may—

(1) provide technical assistance to the Commission to expedite the licensing and regulatory procedures of the Commission relating to the remedial actions with respect to the Three Mile Island Unit 2 facilities in Pennsylvania and the restoration of such facilities to service;

(2) provide technical and planning assistance to the Pennsylvania Public Utility Commission, the New Jersey Board of Public Utilities, and the General Public Utilities Corporation to assist in the preparation of the joint regulatory and economic plan required under section 6(b)(2) and may assist in the development of energy conservation, energy efficiency, and load management proposals associated with such plan; and

(3) enter into agreements and financial arrangements with the General Public Utilities Corporation for the purpose of utilizing any data the Secretary determines to be valuable in understanding and enhancing the safety of nuclear powerplants.

STATE LAW CONCERNING LIABILITY; SUBROGATION

SEC. 8. (a) EFFECT ON LIABILITY.—Except as provided in subsection (b), nothing in this Act shall be construed to affect the liability of any person under other applicable law for any damages or other costs for which insurance coverage is provided by the Secretary under this Act.

(b) SUBROGATION.—(1)(A) When any person is liable under other applicable law to the insured licensee for any necessary remedial costs for which payment is made by the Secretary under an insurance policy provided to the licensee under this Act, the Secretary shall be subrogated to all rights, claims, and causes of action of the licensee against such other person with respect to such costs.

(B) Each insurance agreement entered into with the Secretary under the provisions of this Act shall contain a subrogation clause consistent with the terms of this section.

(2) The Secretary shall commence an action against any person liable to the Secretary under subsection (b)(1). Any sums recovered by the Secretary in any such action shall be deposited in the fund.

REGULATIONS

SEC. 9. The Secretary may prescribe such rules and regulations as may be necessary to carry out the provisions of this Act.

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